

INTELLIGENCE FOR NAVAL OFFICERS

Prepared by

U. S. NAVAL INTELLIGENCE SCHOOL

For

BUREAU OF NAVAL PERSONNEL

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10	260	John McDonald.....	"The War of Wits," <i>Fortune</i> , March 1951.	Time, Inc., New York, N. Y.
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13	323	-----	Dispatch datelined <i>Dayton, Ohio</i> , <i>Nov. 3, 1951.</i>	Associated Press, New York, N. Y.
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14	351	Harold D. Lasswell-----	"Political and Psychological Warfare," in the book <i>Propaganda in War and Crisis</i> , edited by Daniel Lerner.	Do.
14	354	Daniel Lerner-----	Sykewar-----	Do.
14	356	-----	Article, "Daily Crop of Annoyances," <i>New York Times</i> , Nov. 17, 1952.	<i>New York Times</i> , New York, N. Y.
14	358	Ellsworth Huntington-----	<i>Mainsprings of Civilization</i> -----	John Wiley & Sons, Inc., New York, N. Y.
14	359	Alex Inkeles-----	<i>Public Opinion in Soviet Russia</i> ..	Harvard University Press, Cambridge, Mass.
14	360	Daniel Lerner-----	"Effective Propaganda Conditions and Evaluation," in the book <i>Propaganda in War and Crisis</i> , edited by Daniel Lerner.	George W. Stewart Publishers, New York, N. Y.
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15	374	Nathaniel Weyl-----	<i>The Battle Against Disloyalty</i> ---	Thomas Y. Crowell Co., New York, N. Y.
15	374	Philip Selznick-----	<i>The Organizational Weapon: A Study of Bolshevik Strategy and Tactics.</i>	McGraw-Hill Book Co., Inc., New York, N. Y.
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15	388	J. Edgar Hoover-----	"How to Fight Communism," <i>Newsweek</i> , June 9, 1947.	<i>Newsweek</i> , New York, N. Y.
15	389	-----	"Don't Be Duped by the Communists," <i>Redbook Magazine</i> , June 1948.	<i>Redbook Magazine</i> , New York, N. Y.
15	393	Harry Soderman and John J. O'Connell.	<i>Modern Criminal Investigation</i> ---	Funk & Wagnalls Co., New York, N. Y.
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PREFACE

Intelligence is an indispensable element in the successful operation of any modern navy.

World War II and the subsequent hostilities in Korea have more than demonstrated the value to planning and executing naval operations of sound, properly interpreted information about the character of the enemy—the product of naval intelligence. This value is even greater in periods of peace or in the twilight zone between war and peace such as we have experienced since the end of World War II. The extent, direction, and timing of our naval preparedness in these years depend directly on the depth and accuracy of our understanding of the hostile or potentially hostile forces that confront us.

Accordingly the training of capable intelligence officers is one of the Navy's primary tasks. A good intelligence officer must first be a good naval officer; but, in addition, he must have spent long hours learning and perfecting the specialized skills that make it possible for him to penetrate the curtain of secrecy that enshrouds an enemy. Naturally these skills cannot be acquired simply by reading this or any other single book. At the postgraduate level the Navy trains its intelligence officers at the Naval Intelligence School.

This text, which covers in a general way the major aspects of naval intelligence and their relationships to the other functions of our naval establishment, meets two significant needs. First, for those officers assigned to intelligence duties for the first time, or with prior experience in one or another of the various components of naval intelligence, it provides a greater understanding of intelligence as a whole. Second, to the general line officer preparing himself for more responsible operational commands, it gives an intimate acquaintance with the capabilities and limitations of one of the most important supporting elements in successful operational command, with the result that he will find himself better equipped to make use of the services which intelligence is qualified to perform for him.

This text makes no claim to being an exhaustive treatise. Neither is it a book of rules and regulations, since that particular need is covered by the Naval Intelligence Manual and the Naval Intelligence Directives issued by the Office of Naval Intelligence. This is a textbook issued by the Standards and Curriculum Branch of the Training Division of the Bureau of Naval Personnel to bring to the officers and men of the Navy and the Naval Reserve such information about the functions of Naval Intelligence as can appropriately be disseminated through the medium of a training text.

This is the second revision of the original text, NavPers 16047, published in February 1946 and reissued in 1948. It was prepared by the staff of the United States Naval School (Naval Intelligence), Washington, D. C., and reviewed by the Office of Naval Intelligence.

Suggestions, comments and criticisms are invited.

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CHAPTER 1

INTELLIGENCE: A GENERAL ORIENTATION

INTRODUCTION

The word "intelligence" has a long history in the English language. In the sixteenth century, in addition to its primary meanings denoting the power, capacity, and product of the intellect, it began to signify "information, news, or advice," and this secondary meaning implied that such information was secret, obtained through the clandestine efforts of spies employed by rulers or governments. These agents were called *intelligencers*, a word now obsolete, and the organization in which they operated came to be known as the *Intelligence* of the directing authority. In modern professional usage the word in its secondary sense has come to have three connotations: first, a body of knowledge; second, the formal organizations engaged in producing this knowledge; and third, the activity or processes by which the knowledge is produced by the organizations. When referring to a formal organization the word is usually capitalized.

The popular concept of intelligence as a mysterious, glamorous, and hazardous activity has in part been derived from fictional accounts of international intrigue on the Riviera, as described in the novels of E. Phillips Oppenheim, or from the published "cloak and dagger" exploits of two World Wars, both truth and fiction. Indeed, intelligence cannot be denuded of all mystery, glamor, and hazard for they are inherent to some degree in the work of all intelligence organizations. However, the aura of mystery is caused in greater part by the fact that the nature and purpose of intelligence activity are always guarded from public scrutiny by stringent security measures. In general, Intelligence is similar to any other military staff section or governmental agency performing tasks in the national interest.

Because of the essential security of its operations, and the somewhat sinister quality attributed to it by popular literature, intelligence has long

been considered an activity foreign to American custom and procedure. Not until World War II was there a real national interest in intelligence and a universal appreciation of its functions in military command and civil leadership. Even in the postwar period there has not always been complete general agreement as to what intelligence means and what it can or should do. When properly forged, intelligence is a potent weapon, and its efficient use is based on certain indispensable principles and procedures. It is an exciting adventure in forecasting what men and nations might do; in both offensive and defensive actions it is a sword and a shield.

Under the stimulus of world events, America has become "intelligence-conscious," for experiences of the past two decades have demonstrated that intelligence is essential, not only to military command, but also to the government of any nation with worldwide interests and responsibilities. The phenomenal success of Nazi and Fascist dictators in the years preceding World War II, the disaster at Pearl Harbor, and the forward march of Soviet communism in the postwar period have indicated the need for coordinated intelligence upon which to base policy and decision to insure the national welfare. There has been a growing realization that America cannot afford to be caught off guard or be forced into an unfavorable defensive position in the world scene.

This new appreciation and support of its endeavors has given the intelligence profession more stature, and increasing use has been found for its products in solving a greater variety of problems. Intelligence has also acquired a technical vocabulary to explain its processes and concepts, and for the first time in American history qualified persons, civilian and military, are being encouraged to make it a lifetime career.

This study will describe the milieu in which intelligence operates, the concepts and principles

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that govern its employment, and the professional tools which modern science and technology have made available to its personnel. To the professional intelligence officer, it can be no more than a review of what he has learned through training and experience; to the uninitiated it can serve only as an introduction. But to all concerned it will show the inseparable intermeshing of the activities of Naval Intelligence with those of other military and national intelligence organizations, and the corresponding interaction and cooperation that continually links intelligence with planning, policymaking, and operations at every level—from the White House to the foxhole. Naval Intelligence represents only one part of the national intelligence effort. To see the activity of his own service in proper perspective the naval officer must understand and appreciate the vast body of intelligence knowledge, the agencies which produce it, and the methods by which it is made usable.

Our first consideration is the significance of intelligence today, its total meaning, and the scope of its interests, activities, and responsibilities.

THE CHANGING NATURE OF WAR

The changing nature of war itself has created an increased need for intelligence. Men and weapons within the area of conflict have always been primary considerations, but by the 20th century nations began to give attention to achieving their aims through influencing the minds of other men. By the written and spoken word nations now strive to affect the opinions, emotions, attitudes, and behaviors of the peoples of other nations, both friendly and hostile. During World War I, three theories of warfare were developed, all of which emphasized the psychological rather than the physical objective, and which were made practical by the development of the aircraft and the radio. The first theory shifted the purpose of the attack from physical destruction to demoralization of the opposing force by paralyzing its command. The second, "strategic bombing," not only was directed against the enemy's economic capabilities, but also aimed to overthrow the political government by destroying the morale of the civilian population behind the battle lines. The third was based on a delay in physical attack until the moral

disintegration and internal decay of the enemy had been accomplished by propaganda and other means of psychological operations.

In World War II these theories were put to use and greatly refined. The mobility of tanks and aircraft was utilized to overwhelm enemy command. Aircraft and aircraft carriers turned space into speedways of conquest. Guerrilla warfare and the submarine were utilized to exploit enemy weakness. Amphibious warfare developed a new means of invasion. Radio propaganda was employed to confuse and to demoralize. The new strategy, or large-scale planning and directing of operations, used political, economic, and psychological as well as military warfare against entire enemy populations to accomplish ultimate objectives.

In the modern era, as trade in finished industrial products and raw materials was extended to all parts of the world, so likewise military conflict assumed world dimensions. War became total, directed against total populations and all human activities. Both Nazis and Communists have demonstrated consummate skill in using economic, psychological, and subversive, rather than military weapons, to accomplish their basic objectives. War by conventional military weapons has become only one aspect of total war; while so-called "peace" has become a period when the other weapons have been used with devastating results.

Though the war of shot and shell was over, the war of words and ideas was rigorously continued by Russia and directed against all noncommunist countries, and in particular (those of) her wartime allies. Within 5 years this bloodless war enabled the Soviet Union to establish an ideological empire covering nearly a third of the land surface of the globe and including 40 percent of its inhabitants, a conquest unequalled in history (J. F. C. Fuller, *Brassey's 1951 Annual*, p. 138).

By the middle of the 20th century, the well-known Clausewitz definition that "war is the continuation of state policy by other means" had been reversed by the Soviet Communist Party. Soviet state policy had become the *continuation of war* by other means. A more appropriate definition at the current stage of history might be: "War is the imposition of one State's policy on another in such a manner that freedom of group will is lost."

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The key to the definition of any period as war or peace may well be found in the means employed and the effect of those means.

In considering the changing nature of war it is significant to note that the strategy of total war differs completely in its fundamental premise from the old strategy of limited or battlefield warfare. As Fletcher Pratt points out in his book *America and Total War*, the old strategy was to attack the enemy where his strength lay. When his strongest force was defeated, the remainder fell with it. The new concept is to concentrate on weakness and not to encounter the enemy's strength, if at all possible. The point of view of the Soviet Union is indicated by Lenin's statement that "the soundest strategy of war is to postpone operations until the moral disintegration of the enemy renders the delivery of the mortal blow both possible and easy." As a result, the Soviets have employed political, psychological, economic, and technical means to achieve warlike objectives, wholly or in part, without the more expensive resort to military force. By utilizing these means as part of a total subversive effort, the international communists have fatally weakened certain of their target states, notably Czechoslovakia. Subversion, therefore, has been demonstrated as a new instrumentality for making war. The strategy of total war makes it increasingly difficult for any state to remain neutral in the struggle for power between dominant groups of nations.

In the post-World War II period, world communism has continued to emphasize the weapon of ideas in preference to, although supported by, the traditional weapon of physical force. Just when or if there may be a shift in emphasis, and how the United States should conduct its national policies to meet and thwart any means employed by its adversaries, are vital questions we face today.

A survey of current international conditions, together with a clear understanding of the pattern and methods of total war, gives unmistakable meaning to the popular term, "cold war." In this situation at least two factors, other than the nature of total war, have given emphasis to the fundamental importance of intelligence and the need for its use: the increased scope and speed of war and the world commitments of the United States.

Increased Scope and Speed of War

No longer is space itself a conclusive element for defense, nor are geographic features of the earth's surface impassable barriers to enemy attack. The awesome technical improvements with which scientists are transforming the aircraft and the radio of World War II have given the speed of sound to the initiation of military attack. In World War II the German *Blitzkrieg* combined the use of planes and tanks to conquer France in 35 days, while in the Pacific, the aircraft carrier brought naval forces separated by hundreds of sea miles into decisive conflict. At the same time developments in submarine and amphibious warfare withered the extended sea power of Japan and brought men, guns, and supplies over thousands of miles of ocean to overwhelm her vital defenses within a relatively short period.

Strategic bombing, guerrilla, submarine, and psychological warfare carried the war far behind the battlefronts to entire civilian populations, vital industries, sources of the raw materials of war, and communications systems. The master plan of the two major Axis partners, Germany and Japan, encompassed the globe. To meet this threat, the United States fought in the far reaches of the Atlantic and the Pacific and sent forces to distant continents. All parts of the world felt the direct or indirect impact of a world at war.

World Commitments of the United States

In the interests of its own security and national welfare, the United States has assumed worldwide commitments, both military and economic. The decisions which must be made are fundamental, far-reaching, and exceedingly complex. The problems involve such intricately related questions as economics, finance, national politics, raw materials, industrial capacities, communications, manpower, weapons, and scientific and technological developments. The growing interrelation of political and military decisions has made it impossible for the responsible leaders in either field to take action without the closest coordination of effort, based on a full and mutual understanding. The decisions of the military commander are no longer so directly circumscribed by the elements involved in a tactical field of action. The factors of total war, the increased scope and

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speed of war, and interlocking world commitments have added to the complexity of both staff and field decisions. Obviously, the effect of these factors on the commander varies in degree with the echelon of his command. But at any echelon intelligence has become a necessity.

Intelligence—An Essential Function

More than 2,400 years ago a Chinese general named Sun Tzu is reported to have said: "Hostile armies may face each other for years striving for victory which is decided in a single day. This being so, to remain in ignorance of the enemy's condition . . . is the height of inhumanity. One who acts thus is no leader of men, no present help to his sovereign, no master of victory. Thus, what enables the wise sovereign and the good general to strike and to conquer, and achieve things beyond the reach of ordinary men, is foreknowledge."

Intelligence, properly performed, can provide foreknowledge both for government and for military commanders. It can reduce the possibilities of surprise, give estimates regarding both the potential enemy and the area in which he might operate, and so aid in reaching sound decisions which are vital not only to the security and welfare of the nation but also to success in combat. Intelligence, properly used, has its place not only in war or preparation for war, but also in peace and keeping the peace.

INTELLIGENCE AS KNOWLEDGE

"Intelligence regarding the loyalty of the average indigenous peasant to the present hostile government of . . . is important (1) to an evaluation of the stability of that government and its capacity to extend its influence and (2) to the selection of an area along its coast for the landing of amphibious forces."

By this hypothetical statement, the following characteristics of intelligence are illustrated: (1) it is a body of knowledge; (2) it deals with a possible enemy state; (3) it affects a possible area of operations; (4) it can be used by top-level planners in government and on military staffs; and (5) it can aid the military commander in the planning of a specific operation.

Knowledge regarding the "average indigenous

peasant" is much more than the sum of bits of information regarding few or many peasants, gathered from every conceivable source. Some of these bits of information may be true or false; some may be detailed or fragmentary; some may be general or factual in nature; some may come from sources which are accurate and reliable, some from sources which are inaccurate and unreliable. At any rate, many bits of information regarding the "indigenous peasant" must be gathered together and evaluated; they must be carefully analyzed and compared to see that they are plausible; and, after having been boiled down to an essence most closely approximating probable truth, they will provide a conclusion which is meaningful. From the facts or information comes something new, called knowledge or intelligence. Information, then, includes such things as facts, documents, and observations, but is not intelligence until it has been carefully screened and digested to provide accurate meaning.

Intelligence, however, does not include the total substance of human knowledge, but only that which military and civilian leaders must have to make the vital decisions for today and tomorrow. It is the basis for a country's foreign relations, and, as a function of command, it is also essential for the planning and execution of military operations. In either case, it is knowledge upon which a successful course of action can be based. It has been aptly stated that intelligence ideally is that knowledge which a potential enemy has about himself.

The scope of American national intelligence is exceedingly broad because the United States in the interests of its own welfare must know a great deal concerning the attitudes, activities, interests, and long-range plans of all other states in the world. The concentration of interest, of course, will depend upon the conditions of international relations at any given time. Since it is impossible for any nation to attain the ideal of having all pertinent knowledge about potential enemies, certain gaps always exist. Intelligence, therefore, resembles a vast collection of jigsaw puzzle pieces. Some pieces belong to different puzzles, some will not fit any apparent gap in the picture, and some obviously belong but must be patiently fitted into the picture in order to solve the puzzle.

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Component Parts

In assembling this comprehensive knowledge it is essential to break it down into component parts for better understanding and ease in handling. A systematic classification is achieved by a detailed compilation of, first, all the factors of physical environment and, second, of the characteristics that govern human behavior in a given country. Eight major divisions are generally used: military geography, transportation and telecommunications, sociological, political, economic, armed forces, technical and scientific, and biographical. Each of these components, discussed in detail in chapter 5, are indicative of the tremendous range of intelligence subject matter. All components are closely interrelated; no one can be considered separately. A valid estimate can be reached only by considering each in relation to the others.

For the intelligence officer a similar comprehensive knowledge about his own country is a necessary tool, since only with this accurate and more familiar yardstick can he make valid comparisons and relative estimates.

The Factor of Time

The components listed above represent a division of the *subject matter* of intelligence into broad fields of knowledge. A consideration of the factor of time produces a further breakdown into relative elements, labelled as follows: *Basic*, which is descriptive of the more permanent and significant past; *Current*, which deals with the present; and *Estimative*, which concerns future developments. The truly significant element of intelligence is, of course, the Estimative which projects situations and trends into the future. This forecasting, however, must be built up accurately and painstakingly from both past and current knowledge.

The *basic element* is encyclopedic in nature and includes geographical and historical data. It provides the broad background against which to interpret the present and predict the future. It is a part of all the components already mentioned, but especially of those which cover the area of operations and the sociological, political, and economic background of a people. As in the previous example of the "average indigenous

peasant," in order to predict his reactions at some future time, the analyst must have a comprehensive knowledge of the peasant's past attitudes, group habits, environment, and responses. Also, in deciding on possible landing beaches on the coast of the country in question, the intelligence officer must present to his commander a complete description of the beaches along the entire coast. The geographic knowledge must include soil; exits from beaches, topography behind the beaches; accessibility to roads, rail-lines, towns, water, building materials; recognizable features of the coastline; the slope of the beach, the sea bottom off the beaches, the surf, currents, tide, underwater obstacles, sea approaches, and so forth. When it is realized that there may be a number of possible beaches along the coastline of a given country, the quantity of knowledge required becomes apparent.

During World War II, the monographs and area studies prepared by Naval Intelligence provided detailed background knowledge of an encyclopedic nature which was indispensable to the planning of operations all over the world. The Joint Army-Navy Intelligence Studies (JANIS) were also developed to provide background knowledge of areas about which little was previously known. The extensive encyclopedic documentation on heavy industry within Germany, for example, enabled intelligence personnel to note change or expansion, and to estimate the effectiveness of strategic bombing. The experience gained and lessons learned from these wartime studies have emphasized the need for continued coordinated efforts on the part of all intelligence activities in developing and maintaining a fund of basic knowledge in order that the day-to-day situation can be better interpreted. The National Intelligence Survey program is a more recent step toward meeting that need.

The *current element* records the changes continually occurring among all groups of peoples, as well as those which may occur in the physical geography of the world. Knowledge about the past must be brought up to date. The significance of change lies in the possibilities not only of progress but also of decay. For example, in considering any other state, friendly or unfriendly, our military and civilian leaders are vitally in-

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terested in knowing whether its steel production has increased or decreased to a significant degree; what changes have occurred in population, especially in the distribution of age groups; or whether there is a decided swing in popular support from one political doctrine to another.

In considering financial aid to the Nationalist Chinese Government after World War II, United States leaders needed to know details about such matters as current economic conditions in China, and how they were affected by government policies; the needs of the people for food, clothing and shelter; the morale and status of equipment of the military forces; and the effectiveness of military and political opposition forces. From an infinitely complex situation an accurate estimate was required in order to determine if financial aid would be of assistance and, if so, in what manner it should be given.

Even the most limited description of the basic and current elements of intelligence indicates the enormous quantity and variety of details involved. It becomes readily apparent that there is a physical limit to the production of such a volume of knowledge. The question quickly arises: Since it is impossible to achieve the ideal, how should the effort be distributed? The only possible answer is to concentrate on those areas which are most directly related to the present and future decisions of military commanders and civilian leaders. In any event, the basic and current elements of intelligence must be formulated so as to provide an accurate basis for the estimative.

The *estimative element* deals with the future. It is knowledge of what a state or a military force of that state can or might do. In respect to international politics, it includes the influence which any state can exert in the world and what forms that influence may take. In respect to a military force, it considers the effectiveness of that force at a given place and time and the objectives that force is capable of gaining, or might try to gain. In effect, this element of intelligence represents inferences from past and current knowledge which may or may not be complete.

Involved in the estimative element are four primary factors: situations which exist or may eventually exist; vulnerabilities or specific weaknesses which may be exploited; capabilities; and

probable courses of action. An intelligence estimate, to have real meaning, must relate to a situation, that is, to a possible enemy, to a possible place, to a possible time, and to the probable means which may be employed. No estimative knowledge can have meaning in a vacuum.

Given the concept of total war, the vulnerabilities of another state are particularly significant. Weaknesses may exist in any aspect of its national life—political, sociological, or economic. They may be found in its military forces or in its geographic position. The skillful exploitation of weaknesses may produce results out of all proportion to the means employed. Conversely, failure to exploit them because of lack of knowledge can be costly to a disastrous degree. In both World Wars, Great Britain's insularity was a vulnerability upon which Germany concentrated by means of its submarine force. Extremely serious situations resulted from this underwater warfare directed against the shipping which carried food to Britain's population and raw materials to her industries. In World War II, one of Hitler's blunders was his failure to invade England after the withdrawal from Dunkerque, an admirable illustration of failure to take advantage of a military vulnerability because of lack of knowledge and planning. In the case of France, on the other hand, the moral weakening of her political structure, and internal dissension and corruption helped to create a vulnerability which the Germans exploited to the full.

The capabilities of a state relate to its qualities of strength. The fundamental—and ultimate—capability is that of military power, expressed in time and force, which includes not only men and guns, but also economic and industrial strength. Other strength factors include: geographical position; population, especially of military age; raw materials and industrial plants; transportation facilities; the stability of political structure; and the moral fibre of the people. During World War II, the German and Japanese Governments underestimated both the industrial capability of the United States and the strength and determination of the American people.

In planning military operations, the following additional factors of strength or weakness are considered: numerical military strength, effect of

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time and distance, efficiency of personnel, quality of equipment, special weapons, and logistic support and reinforcement.

Given the situation, together with the enemy's vulnerabilities and capabilities, the estimative element of intelligence takes the form of probable courses of action. It may be deduced, therefore, that this element of intelligence represents guesses or opinions rather than verifiable facts and hence is of doubtful value. It is true that estimative knowledge is not absolute nor as exact as basic and current. However, if based on accurate information carefully analyzed, it constitutes an educated guess and a carefully considered opinion of a much more valid nature than that derived from an individual "hunch" or snap judgment.

Intelligence, then, is a body of knowledge which encompasses in greater or less degree, all world states, and all possible areas of operation. Its elements and component parts are interrelated and intermeshed. Its infinite volume of detail requires emphasis only on those portions of knowledge which are or will be needed by military commanders and civilian leaders. It is knowledge for a purpose. The only justification for its collection and interpretation is to assist those who will use it in reaching vital decisions. Those who produce intelligence must keep this purpose foremost in mind.

Use for Strategic Purposes

Military commanders at all echelons of command draw upon the body of intelligence knowledge in solving particular problems and in reaching command decisions. Those in top echelons of command, and top-level leaders in government, use areas of this knowledge in formulating plans and policies and reaching decisions affecting the security and welfare of the entire nation. In time of peace, top-level commanders determine how best to dispose and utilize available military forces for the national security and assist the top-level civilian leaders who formulate the national policy toward other nations of the world. In addition, in time of war, these military commanders are responsible for the conduct of total military operations. This employment of intelligence is called *Strategic Use*. Strategic Use furthers the master plan of the nation's world relationships in both

war and peace—its *grand strategy*, which encompasses both military planning and foreign policy, and has an inevitable impact on domestic policy as well.

From the military point of view, strategy does two things: it determines and assigns objectives which, if achieved, will aid in winning a war and strengthening the peace; and it allocates and gets to the right place at the right time an adequate and suitable force to accomplish each objective against enemy resistance. In respect to national policy, strategy is *positive* when it aims to improve a current situation in world affairs; it is *defensive* when it strives to prevent a situation from becoming more unfavorable. When the nation has a choice of several favorable policies, it then has the strategic *initiative*.

In the restricted military sense, strategy connotes the application of armed force or the threat of that force; in a broader military-political sense, it includes the use of economic-political-psychological activities to gain diplomatic or trade advantages or to influence the group thinking of another nation in a manner which will promote the welfare of our own Nation. The strategic role of intelligence when there is no armed conflict is to aid the chiefs of state in formulating grand strategy and to enable military leaders to plan in such a way as to support the decisions of the chiefs of state.

An example of the use of intelligence for the purposes of grand strategy is afforded by Hitler's early development of a world-wide system for gathering information which was scientifically analyzed and evaluated. With this weapon he was able to implement his revolutionary methods of warfare, which took economic, political, and psychological forms during the years from 1938 to 1940. It made possible his "fifth-column" activities, his "war of nerves," and the corruption of high public officials. It was the basis for a succession of historic events: the annexation of Austria, the occupation of Czechoslovakia, Norway, the Netherlands, and Belgium, the diplomatic isolation of the Balkan countries, and the fall of France.

Through intelligence activities the Nazis probed the defenses of the Maginot Line, and through a skillful "war of nerves," followed by the ultimate

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"blitzkrieg," 200,000 men were enabled to defeat a nation with 5,000,000 men under arms.

In modern war, strategic bombing has increased the requirements for intelligence knowledge upon which military planners are dependent for target selection. In World War II the bombing of German industrial targets required information about basic war industries and the thousands of industrial plants involved. For example, a great deal of study preceded the Allied decision to bomb plants producing aircraft and their component parts, ball bearings, synthetic rubber and oil, and thus to cripple a most important segment of German war production.

The term, "Strategic Intelligence," then, is descriptive of one *use* of intelligence knowledge. Other terms, commonly employed, relate not only to a use of this knowledge but also to the user. "National Intelligence" describes the knowledge used as a basis for reaching comprehensive decisions regarding national policy, welfare, and security. It also identifies the users as top-level governmental groups whose interests are broader than those of any one department or agency. "Departmental Intelligence" identifies the user as a department of the federal government and refers to the knowledge used in the carrying out of its mission and assigned responsibilities. "Naval Intelligence," for example, is one kind of "departmental intelligence." "Interdepartmental Intelligence," which lacks the scope of "National Intelligence," describes knowledge of common concern to more than one department. Finally, other terms are employed to describe many of the component parts of intelligence knowledge according to their content: such as "political intelligence," "economic intelligence," and "technical intelligence."

A problem in the use of terms such as these has been the resulting erroneous impression that each represents a kind of intelligence that is different from all others. While these various terms are quite acceptable for convenient reference, the point to remember is that they do not describe separate, distinct or compartmented kinds of intelligence. All kinds are irrevocably interrelated; the meaning of each, as well as the meaning of the total, is complete only when all are considered together. Regardless of terminology, intelligence can be only

one body of knowledge with component parts and elements which are drawn upon according to the needs of the user.

Use for Operational Purposes

While top-level military commanders use intelligence for broad planning purposes, they can never lose sight of the fact that their policies and decisions must be translated into action by the lower echelons of command. Hence the knowledge used by all echelons is both broad and specific. The only difference is one of emphasis, which stems from the problem to be solved by the user. For example, the knowledge used becomes less broad and more specific as the top-level decision is transferred for action to the theater commander, down to the task force commander, and so on to the commanders of the operating fleet units. Thus intelligence is used specifically for operational purposes when it is a basis for decisions involving the physical employment of particular men and materiel against a particular adversary. Here the current element of intelligence plays a most important part.

As one illustration, in the latter days of World War II, the decision to drop an atomic bomb on Hiroshima was made at the highest policy and command levels on the basis of the most comprehensive available intelligence in view of the strategic implications for the entire Pacific war. At the same time, potential Japanese air opposition required the use of intelligence for specific operational considerations in determining whether or not such a mission could be successfully carried out.

It has often been said that intelligence is used for strategic purposes in time of peace and for operational purposes in time of war. Such a statement might have been approximately correct prior to World War I, when periods of war and of peace could be more accurately labeled. However, just as the pattern of total war has materially reduced the distinction between strategy and tactics so likewise has it resulted in a merging of the uses of intelligence for strategic and operational purposes.

In time of peace, or when widespread military conflict is not involved, intelligence may be used for operational purposes, as well as strategic. The ideological war waged by the Soviet

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Union against many nonCommunist countries, including the United States since 1945, is illustrative. The weapon of ideas has been employed in an effort to incite unrest among labor and racial groups, and to capture the minds of men with false words. To take action against this weapon, radio programs, such as those produced by the Voice of America, have been instituted as a means of presenting a true picture of American life and aims. Intelligence has an operational use when it serves as a basis for decisions regarding such matters as audience targets.

In times of armed conflict, intelligence has many varied and vital operational uses. In planning and executing a large amphibious operation, such as that at Okinawa, the responsible commanders required the most detailed and comprehensive knowledge concerning the Japanese forces and defenses on those islands, the physical area of operations, and enemy forces in adjacent areas which would be capable of interference. In a smaller specific combat situation, such as a submarine mission in the Formosa straits, the submarine commander required specific knowledge as to when and where Japanese naval and merchant ships could be expected and which were the best targets. If a merchant ship carrying rice from Saigon to Tokyo was given first priority, that selection might well have represented a strategic as well as an operational use of intelligence. The knowledge required as a basis for operations involving aircraft carriers separated by hundreds of miles may be both operational and strategic.

For operational purposes, then, there is a need for the most detailed and specific knowledge about the enemy and the anticipated area of conflict. This is true for all types of military operations, amphibious, submarine, antisubmarine, mining, air, fleet, and reconnaissance patrols, to mention only a few. Similar knowledge is also required for the action phase of other types of modern warfare such as economic, political, and psychological.

For convenience of reference in operational activities, the knowledge involved has been labelled according to its use and its user. For example, the following terms are common: operational intelligence, amphibious intelligence, air intelligence, and fleet intelligence. During World War II the term "operational intelligence" was defined as "in-

telligence needed by naval commanders in planning and executing operations, including battle," and referred to operations of an extensive and time-consuming nature. A second term, "combat intelligence" was used to describe that part of naval operational intelligence required by naval commanders actually engaging enemy forces during the comparatively short time of a naval battle. As in the case of the various terms applied to the strategic use of intelligence, it must be pointed out again that no separate or distinctive kinds of intelligence are involved. The parts or elements of the total body of knowledge are simply being used for a particular purpose which, in this instance, is operational.

In connection with military operations, it must be emphasized that intelligence has one primary function: *to aid the commander in resolving his mission and supervising the planned action against the enemy.* This function, together with the role of the intelligence officer on an operational staff, will be discussed in chapter 12.

Use for Countering Purposes

A third major use of intelligence arises from the need for countering the positive efforts of potential enemies to carry out against a nation certain inimical activities known as espionage, sabotage, and subversion. In general, these activities have the common objectives of weakening or destroying any or all elements of a nation's total power and warmaking potential, thereby increasing the power advantage of the nation initiating them. Simply stated, *espionage* is the clandestine collection of information about a foreign country. To a degree, it is the art of spying. However, it may also be any unobserved or unapproved collection of information which, when gained, is used to the disadvantage of the subject nation. The target of espionage is particular information which will aid in determining a nation's capabilities and intentions, its strengths and weaknesses.

Sabotage is activity directed toward the damage or destruction of physical facilities vital to a nation's total power, such as its industrial system and military establishment. Sabotage, however, is not only physical. It may be nonphysical, though just as effective, if its objective is the weakening or destruction of a program or a policy, domestic

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or foreign, related to a nation's strength, security, and general welfare. This type of sabotage includes enemy activities which have as their result the creating of terror, panic, and civil disorders.

Subversion may be described as activity aimed at attacking men's minds for such purposes as destroying primary loyalties and faith in constituted authority, encouraging continued dissension between social and racial groups, or causing individuals and groups to act consistently contrary to the best interests of a nation's government. As an ultimate objective, subversive activities are directed toward transforming social institutions and eventually altering a form of government through unconstitutional means. While it is often difficult to differentiate between the activities of nonphysical sabotage and subversion, one point of distinction is the fact that subversion involves a complete change in attitudes and points of view, a permanent transfer of loyalties and faith. A difference, then, is to be found in the degree of finality of the results achieved. Because of the common objective and related methods of espionage, sabotage, and subversion, the term "subversion" is sometimes used to include all of these detrimental activities.

Quite naturally, every nation actively endeavors to prevent any other from carrying out successfully such activities. These opposing efforts are called *counterespionage*, *countersabotage*, and *countersubversion*.

Since it is apparent that some nations of the world have organizations trained to carry out espionage, sabotage, and subversion, the United States Government and its military services must be prepared to counter them in at least two ways. First, adequate security control measures must be established and maintained to safeguard information, personnel, equipment, and installations against these inimical activities of foreign nations and of disaffected or dissident groups or individuals which constitute a threat to the national security; and second, both the foreign organizations and the groups or individuals involved must be actively opposed and prevented from accomplishing their objectives. In order to achieve maximum success, our responsible departments and agencies require both comprehensive and detailed knowledge regarding the objectives, plans, and

methods of the enemy, and particularly the organizations, groups, and individuals trained in and assigned to the specialized activities described above. The knowledge used to counter these activities may be called counterintelligence. However, it must be noted immediately that the term "counterintelligence" means much more than "knowledge"; it encompasses both organization and activity. In its comprehensive sense, therefore, *counterintelligence* is a specialized phase of intelligence related specifically to security control measures applied against the enemy's activities of espionage, sabotage, and subversion. A more complete discussion of this subject will be given in chapter 15.

The use of counterintelligence knowledge is closely and continuously related to the uses of intelligence for strategic and operational purposes. Regardless of the purpose, information concerning it must be denied to the enemy, and his efforts to interfere by means of espionage, sabotage, or subversion must be opposed. This is essential in both peace and war. In time of peace for example, information regarding the grand strategy of the United States must be most carefully guarded. In time of war, the military commander usually includes a counterintelligence plan with his operations plan or order. Hence, while intelligence is being used for other purposes, it is being used concurrently to protect those purposes. The nature and form of security control measures depend upon knowledge of the enemy and of the particular activities to be countered.

The vital part which counterintelligence must play in time of peace is well illustrated by the Gouzenko incident in Canada in 1945. Through the voluntary confession of a cipher clerk in the Soviet Embassy at Ottawa, evidence was revealed that a Soviet spy ring had obtained much vital technical information regarding the atomic bomb. Subsequent additional evidence pointed to the probability that the Soviet Union, profiting from extensive espionage activities, was much further advanced in its atomic research program than had been considered possible. An immediate result of this information was a reduction in the world power advantage of the United States and her allies, maintained as long as she was in exclusive possession of the secrets of the atomic bomb. In

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view of this newly determined Soviet capability, both our national and military planning and policies became subject to revision. The deficiencies of counterintelligence in this instance had obviously significant effects on a worldwide scale.

Preparatory to the Allied invasion of Normandy counterintelligence was needed by appropriate authority to formulate protective, deceptive, and aggressive measures in the United States, the United Kingdom, and in enemy-occupied France in order to thwart Nazi efforts to gain vital information regarding invasion plans. It may be assumed that the enemy concentrated his espionage activities on finding out the time and place of the Allied landings, and the numbers and dispositions of ground, air, and naval units involved; further, that every effort was made by means of sabotage and subversion to disrupt the implementation of Allied plans. The responsibilities of counterintelligence were tremendous and its contributions substantially effective.

These illustrations indicate that knowledge *prior* to enemy action is of inestimable value. Even more, they imply that positive action in advance which will deny to an enemy the opportunity to commit the act is of even greater value. This action feature of counterintelligence sets it somewhat apart from the uses of knowledge already mentioned.

As was true of the other two major uses of intelligence knowledge, various descriptive terms have been applied to counterintelligence in order to define it. For example, it has been labelled as "domestic intelligence," "negative intelligence," "security intelligence," or "passive intelligence." Since these terms are not entirely accurate or complete they should be noted only for reference purposes. To be remembered is the fact that knowledge used for countering purposes is still a part of the total body of knowledge, deriving its full meaning only when considered in the light of the whole.

Other Uses

There is frequent need for specific items of knowledge; in some cases, merely factual data or information from which is derived the encyclopedic or basic element of knowledge. For example, in the formulation of a new policy or in the

solution of a military problem, an agency or a commander may need to know the cargo unloading capacity of a certain port, the depth of water alongside a particular pier, the source of water for a town, or the lowest recorded temperature at the South Pole. Various departments or agencies concentrate on specific areas of knowledge and must be prepared to provide reference service to organizations working on related problems. When knowledge or information is used for this purpose it is known as Spot Intelligence or Spot Information. It is usually obtained by intelligence agencies or collection units in response to a specific request. Important as this use is, care must be taken to ensure that concentration on the requirements of Spot Intelligence does not result in a neglect of the overall requirements of the intelligence mission.

Other uses of intelligence may well arise in years to come. Since 1945 a concept of world state communities has been growing out of the activities of the United Nations and its associated regional pacts. As the United States increases its participation in these activities it is quite possible that there will be new uses for intelligence in such joint enterprises. But regardless of any new uses, or special terms to describe them, the knowledge involved will still remain a part of the total body of intelligence as far as the United States is concerned.

In discussing various uses of intelligence, the users have been described in general terms. They include not only civilian leaders within the federal government and military leaders in all echelons of command, but also individual military personnel with specialized jobs—such as pilots, boatswain's mates, and tank drivers. Even those who produce intelligence must use it in order to continue the orderly expansion of the total body of knowledge. It is the organization of these producers that gives a second connotation to the word intelligence.

INTELLIGENCE AS ORGANIZATION

In his book, *A Soldier's Story*, General of the Army Omar N. Bradley makes the following comment: "Later in the War, I often explained to my Staff that G-2 (Intelligence) existed to tell me what should be done on the basis of his in-

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formation concerning the enemy." In this statement, General Bradley is referring to the organization which produces the knowledge he, as a commander, must have for his use. When spelled with a capital "I," Intelligence means organization.

The historical development of intelligence organizations, and characteristics of the United States intelligence system are more fully discussed in chapters 2 and 3, but it is pertinent here to stress the impact of the pattern of total war on all intelligence organizations. Not only has total war caused a tremendous expansion of the total body of knowledge needed by civil government and military command, but it has also forced an intensive development of organizations specializing in many fields to gather and to produce that knowledge. Some nations, having maintained intelligence organizations for hundreds of years, have a substantial background upon which to draw. The United States, however, has a much more limited background; and only in recent years has it endeavored to stabilize the structure of its national intelligence system. The potentialities of this system, in peace and in war, are great indeed; its youth is a limiting factor which will be overcome only by inspired leadership, hard work, and continuous years of experience.

Prior to, during, and even after World War I, intelligence production was handled on an individual basis, with little coordination of effort. Total war, however, has brought about requirements for knowledge based on information of such complexity and pervasiveness throughout the total of man's activities that it cannot be encompassed by individuals working singly. Meaningful intelligence requires the group effort of many individuals whose activities must be carefully directed and coordinated. Therefore, efficient organization and skillful production have assumed great importance.

Sherman Kent has aptly stated that good intelligence organizations must possess certain characteristics of a large university faculty, a great metropolitan newspaper, and a good commercial business organization. First, management must appreciate and tolerate broad individual freedom in the search for truth by personnel selected for their abilities in research and analysis. Second,

organizational doctrine must emphasize rigid adherence to the time requirements for completion of assignments, an observance of editorial policy, and an individual responsibility for accuracy, completeness, and clarity of meaning. And third, the producers must be sure that the product is prepared and packaged in accordance with the needs and wishes of the consumer. They must also consider its value in relation to its cost. Like a good business, Intelligence must stress planning; it must study the market, consumer reaction to its product, and new consumer problems which will require the development of new products. Intelligence must be a carefully defined, smoothly operating organization which remains sufficiently flexible to permit adjustment to emergencies.

Continued application of the principles of modern management will aid in streamlining intelligence organizations to reduce duplication of effort, without sacrificing complete coverage. Special efforts of management must be directed toward the development of a sense of purpose for each organization, an understanding of the overall intelligence production problems, and an appreciation of the interdependence of the various producing organizations. Close coordination of the intelligence production of the various services, departments and agencies, together with the greatest care in selection and training of personnel, can do much to develop smoothly operating organizations.

Many problems of United States intelligence organizations stem from inexperience and from the inevitable fact that much information collected is incomplete and imperfect. Still others arise from the techniques employed to refine the information. It should be clearly understood that, since this information relates substantially to the variables of human behavior, its processing into intelligence cannot apply fully the techniques of scientific research and laboratory method used by the exact sciences. An appreciation of various basic reasons for some of the problems of intelligence organization can, in itself, benefit both the producers and the consumers of intelligence.

Of necessity, intelligence work has become a profession, deriving its substance from other professional fields, especially from the exact sciences and the social studies, but also requiring the con-

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tributions of the historian, economist, lawyer, and linguist. No longer is it desirable for individuals to be impressed into Intelligence service with the hope that they can "pick it up." The requirements for each worker include an accurate fund of knowledge which is not only broad, but also specific (in at least one field). In addition, certain basic personal qualities are indispensable.

Basic Attributes of Personnel

Intelligence is an organization made up of people; its effectiveness and success rest upon them. What then should be some of their personal qualities? First of all is flexibility of mind, which may be defined as the ability to meet new situations effectively as they arise. One who possesses this quality is capable of bold and original thought, and he does not hesitate when the need arises to depart from traditional procedure.

A second quality is the ability to assimilate quickly a large and perhaps diverse number of facts into a comprehensive whole, from which significant meanings may be drawn. This quality obviously implies others, such as a faculty for absorption and retention of background information, a natural curiosity, well-ordered mental processes, and imagination tempered by common sense. The ability to speak and write clearly, concisely, and accurately is essential if the information or intelligence is to be successfully transmitted to those who need to know.

Personal enthusiasm, a strong sense of balance and proportion, and a wholehearted spirit of co-operation rank high on the list. Because intelligence work represents group effort, no one person should depreciate the work of others and magnify his own; he must recognize that there is much he can give and much he can receive in the total production effort. He should never lose sight of the fact that he is contributing to overall objectives and meanings which may be vital for his countrymen's survival. Loyalty, then, is also basic.

Intellectual honesty is that quality which will compel the intelligence worker to transmit the true meaning of his knowledge as he sees it, and not as the potential user would like to hear it. Emotional stability is essential to continued good judgment as well as to the indispensable quality of reliability. The significance of these qualities is

well illustrated by the case of Col. Alfred Redl, head of all Austrian espionage during the days of the Old Austro-Hungarian Empire prior to World War I. Because of his homosexuality, he was successfully blackmailed by a Russian agent who obtained Austrian secret war plans, military codes, and a list of Austrian agents in Russia. The appalling defeats suffered by the Austrians in Galicia early in World War I were partly attributable to Redl's vulnerability.

Other qualities and abilities are required in intelligence work, varying in degree according to the particular duties assigned. They will be discussed as appropriate in later sections of this text. The intelligence officer must possess qualities of leadership commensurate with the responsibilities of his billet. In general, he must have a minimum amount of knowledge in all fields relating to his work so that he may recognize the existence and general nature of any problem. For example, he must know enough about an area of operations to appreciate any conditions which might give rise to problems of health for a landing force. He must be able to coordinate the precise technical knowledge of the staff expert with his own general knowledge about the enemy in order to evaluate the full implications correctly. Finally, he must be able to integrate subsidiary conclusions in order to reach the essential overall estimate.

It becomes apparent that the requirements for the intelligence officer are highly exacting. The body of knowledge with which he must concern himself is both comprehensive and widely varied. The question immediately arises as to where such personnel may be found and how they should be selected.

Selection of Personnel

In the case of officers for Naval Intelligence billets, a basic knowledge regarding the United States Navy is a first requirement. This knowledge can best be obtained from active naval service, although good training at naval schools can be an emergency substitute. The importance of this requirement has been indicated previously, when it was noted that the production of knowledge about the enemy and the area of operations is often facilitated by knowledge of our own forces and our methods in comparable operations. In addi-

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tion to naval knowledge and training, officers must be carefully selected on the basis of the personal attributes described above and the particular requirements of the billet for which they are being considered. Specialized intelligence training is also essential.

In general, intelligence personnel should be selected from those who have specialized in fields of knowledge to which intelligence is related, such as architecture, archeology, engineering, geology, cartology, hydrography, photogrammetry, law, transportation and shipping, languages, the natural and physical sciences, and the social studies. Valuable experience includes extensive foreign travel, investigative work with federal and state agencies, research and analysis, executive and administrative. While it is true that the selected specialists are well versed in their own fields, they are entering a new field, and must learn to perform their assigned duties in Intelligence in accordance with new techniques. Training of all personnel is imperative.

The Value of Training

At least two facts emphasize the necessity for the most exacting training: First, the production of intelligence involves an intricate developmental process for which all pertinent material is seldom available; and second, the finished product may be vital to the welfare and security of the Nation and to the very lives of fellow countrymen.

In order to contribute effectively to this production, intelligence personnel must fully explore all possible sources for information; they must know when and how to explore; they must thoroughly understand the process for refining this information: the adding, subtracting, tempering, and testing which go into the forging of intelligence. In this refining process, they need experience to appreciate the degree of improvising possible when essential items are missing, and the logical sequence to be followed in interpretation of information. Above all, they must never forget that the product has no value unless it can be used. The critical factors of time and space in modern warfare subject them to a great amount of production under pressure.

To say that intelligence workers are made, not born, implies that there are no substitutes for

training, continuous study, conscientious effort, and years of experience. As in other fields, the mechanics of training are not enough; the motivation must come from the worker himself. No outside assistance can be of real value without a determination on the part of the individual to become not just another intelligence worker but the very best.

Although he may be a specialist in a particular field, the intelligence officer must develop an appreciation of the other fields which comprise the sum total of intelligence knowledge. With this appreciation, he can more effectively direct his own efforts. Training must encourage that harmony of effort so important for the success of any organization.

Learning through doing is another important training requirement. Painstaking, detailed work is part of the routine, a necessary preliminary to exciting accomplishment. A continuous training program can help to define the goals and objectives. Such a program must also include Reserve personnel.

Indoctrination in security measures for handling classified material is an essential part of training. The intelligence officer must not only be thoroughly familiar with the regulations as set forth in the Navy's *Security Manual for Classified Matter*, but he must also have a real appreciation of their guiding principle, that classified material is made available only on a "need to know" basis. Intelligence personnel can provide accurate knowledge regarding a problem *only* if they have access to all data bearing on that problem. If the classification of certain data restricts availability, knowledge will be incomplete and false conclusions may be drawn. Intelligence officers, therefore, rank high on the list of those who need to know.

There seems to be no question but that training, and continued training, is of inestimable value for developing the highest caliber of personnel to produce the highest caliber of intelligence. A program of training for reserve military personnel in peacetime has assumed more importance because of the rapidity with which the military services must expand in the event of total war. If military intelligence organizations are to be sufficiently flexible to continue adequate and effi-

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cient production of intelligence under wartime conditions, there must be a substantial reserve force, well trained, which can be activated in a minimum time interval. Since World War II, the development of a permanent intelligence corps in each branch of the Armed Forces represents a step toward improving this situation. While the accomplishments of reserve personnel in World War II were phenomenal, considering the fact that their training was carried out "on the job," mistakes were made. Modern warfare has reduced materially the available time to recover from mistakes. Only training can maintain reserve military personnel at a degree of efficiency which will permit them when called upon to contribute effectively to the production of intelligence.

Undoubtedly, one of the most difficult aspects of training is that of method in intelligence production. This term, production, brings our discussion to the third connotation of the word "intelligence."

INTELLIGENCE AS PRODUCTION

"Intelligence involves the collecting of information, its processing, and the disseminating of the resultant knowledge to those who need it." In this illustrative statement, intelligence means production. The production effort, known as the intelligence cycle, includes collection, processing, and dissemination. Since the cycle is the subject of later chapters, only certain general comments need to be made here. A technical intelligence vocabulary has been developed to apply to the various phases of production. Different terms are sometimes used by different organizations to describe the same working tools, working procedures, and mental processes, but if the basic processes involved are kept clearly in mind, confusion over definitions can easily be avoided.

If the intelligence cycle is to be effective, there must be careful planning and firm direction to the production effort. Priorities in collection must be established, and a continuing program of guidance instituted for economic and efficient operation throughout all phases of the cycle. Intelligence organizations must be kept informed of overall plans and policies so that everything they do will have meaning and value.

Emphasis on the collection phase of intelligence production has resulted in the use of special terms to describe sources of information. For example, *covert intelligence* refers to information obtained by secret means, through spies or undercover agents, without the consent of the country involved. While it is this type of collection which has given intelligence activity the flavor of adventure and mystery, by far the greater amount of information is derived from sources available to anyone who knows how and where to look. Such sources include the newspapers, periodicals, governmental and business reports, radio broadcasts, and diplomatic representatives. Information gained from such sources is often called *overt intelligence*.

Intelligence Collection in Time of Peace

It is readily apparent that the collection of information and the production of intelligence in peacetime is facilitated because information is customarily more easily available than in wartime. With the exception of some areas controlled by totalitarian states, data can be collected the world over to provide the encyclopedic knowledge which forms the broad base of intelligence. It is in such periods that Intelligence can make its greatest contribution to the nation by producing knowledge which can be used to thwart the nonmilitary aggression of other states, to prevent surprise, and to avoid devastating military conflict.

In preparing for total war and avoiding surprise, collecting information and developing knowledge regarding the scientific and technical advances of other nations assume particular significance. Science has always been applied to the perfecting of weapons of war. The improvement of old weapons and the invention of new ones have progressed rapidly since World War II. Never before has the fate of nations been suspended so precariously in the balance or depended so completely on the efforts of scientists racing against time. The increasing range of weapons and new tactics in their employment have brought home to the United States the awesome prospect of being caught by surprise. Ignorance might be a deciding factor in total war; intelligence is the weapon which must combat it.

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The importance of intelligence in peacetime is well known to the French. The Prussian collection effort, prior to the Franco-Prussian War of 1870, was so thorough that Bismarck's armies practically walked into Paris. The Nazi successes prior to World War II provide more recent and equally appropriate examples.

Intelligence Collection in Time of War

The collection of information in time of war is accomplished by methods which are usually more costly in terms of men, money, and materiel. The enemy, once identified, expends even greater efforts to deny information regarding himself or to contravert this information for the purposes of deception.

Clausewitz pointed out the difficulties of war-time collection when he said: "A great part of the information obtained in war is contradictory, a still greater part is false, and by far the greatest part is somewhat doubtful. What is required of an officer in this case is a certain power of discrimination, which only knowledge of men and things and good judgment can give. The law of probability must be his guide."

In time of war, collection is aided by such operational means as aircraft, submarines, reconnaissance patrols, ships, and by the interrogation of prisoners. Photography then becomes an indispensable means of collection, and a source of knowledge for both strategic and operational purposes. The accurate interpretation of photographs reveals both the activities of the enemy and the terrain characteristics of the area of operations. Because the factor of time has assumed such importance, continuing efforts are being made to develop techniques which will speed the transmission of photographic information from its source to those who can interpret and disseminate it.

The numerical requirements for trained intelligence personnel rise sharply in wartime. In the case of the Navy alone, hundreds of additional officers and enlisted men must be assigned to the expanded fleet organization, flag staffs, motor torpedo boat, and air squadrons; to intelligence centers and advanced base units; to sea frontiers and naval districts; to naval attaché posts; and to joint or combined military staffs. Rapid expansion

can be accomplished only if there are substantial well trained reserve groups which can be quickly activated. To insure the continuous flow of intelligence production, however, adequate numbers must be employed at all times, in peace as well as war. The curtailment of this production can be as disastrous to the nation as the failure to keep pace with the development of physical weapons.

Processing Information

The collection of information is a time-consuming and expensive operation. It can be an almost futile effort unless its results can be converted into usable knowledge. This conversion phase is much more than the physical handling or rearrangement of information received; it involves original thinking as well as logical thought processes. Obviously, many difficulties arise in large organizations where volumes of factual material must be so catalogued and disposed that interrelationships can be studied and new meanings derived.

Processing data may be compared to refining crude oil. The oil is subjected to many stages of cracking; at each stage a different substance is developed; until, at the final stage, a new product is created. So it is with the processing of information. When received, the original information is studied. From this study, first conclusions are drawn. These conclusions are then studied in connection with those supplied by other basic data. At each stage of study, the subject material is transformed into a new conclusion. As in the oil cracking process, each stage must follow a logical sequence. For ready reference at each stage of production, a complete and systematic filing system is essential. At no point, however, can any study or solution be considered as irrevocably definitive, in view of the fact that it concerns the activities of men in which there is constant change. Therefore, no conclusion may be said to be final; each is subject to possible change. Of course, material dealing with certain physical conditions, such as terrain, are the least subject to change.

A basic problem of production is that the information received may be incomplete and contradictory, requiring the application of the most searching standards of proof for all conclusions.

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The processing phase itself is a delicate operation and subject to errors resulting from the omission of necessary comparisons, the inclusion of false data, or failure to follow a logical sequence. The problems of processing and the application of scientific methods in intelligence production will be discussed at more length in a later chapter.

Intelligence Action

In the military services, intelligence is a staff function operating as an adjunct of the commander. Intelligence takes a vigorous part in helping to formulate the action which will be taken by or in the name of the commander. Intelligence, therefore, is not an action agency, if by the term is meant chain of command authority.

However, action, and plenty of it, is involved constantly in the collection of information and in the prompt dissemination of intelligence to those who need it. Skillful action also is required in countering the intelligence efforts of potential enemies, as exemplified by the activities of the Army's Counter Intelligence Corps.

To be stressed is the fact that Intelligence must maintain a positive and aggressive point of view, together with a keen sense of responsibility for its part in any action which will be taken. Intelligence personnel can never retire from the scene of decision after presenting their recommendations; they continue to function after decisions are made and often become a part of action taken.

CONCLUSION

The purpose of this chapter has been to acquaint the naval officer with the meaning and significance of intelligence. It has been emphasized that intelligence is *one* great body of knowledge, used for a variety of vital purposes. It is the result of skillful production by organizations composed of carefully trained personnel, and in the right hands at the right time, it provides a sound basis for diplomatic and military decisions affecting the welfare and security of the nation. Such intelligence, coordinated at the highest governmental level, is of common concern to more than one organization and transcends the exclusive competence of any one part of the total system.

It must not be assumed, however, that Intelligence is infallible or that it can provide *all* neces-

sary knowledge. The most desirable situation would be the presentation of the precise intentions of potential enemies: when and where and with what means they plan to strike. Because such precise knowledge is seldom obtainable, Intelligence strives to provide the closest approximation.

Limitations of Intelligence

Intelligence is not without its limitations, the first being that information regarding potential enemies is often incomplete and inaccurate. While a vast amount of information is available for collection, the most vital is obviously concealed to the greatest degree possible. Often, incorrect information is made available for purposes of deception, and its true identification requires both skill and experience. Since he seldom knows the enemy's specific objectives, the collector of information does not always grasp the significance of what he gathers, and his reports become meaningful only when collated with other data by the intelligence producing unit.

A second limitation arises from incomplete understanding of our own plans and objectives. In the field of national affairs, this limitation is caused by the fact that the United States is still trying to interpret its own position of world leadership and to formulate specific objectives which can aid the world today in the struggle against the threat of global conflict. In the field of military command, Intelligence will be limited by the extent of its knowledge of the commanders' plans and problems.

A third limitation is that of personnel with sufficient skills and experience. Only in recent years has Intelligence been considered as a professional field, and its personnel in general require more training and more practical experience. Its doctrines of method and procedure are still in the developmental stage. In the military services, there has been additional limitation of numbers, for in the past, Intelligence has been manned almost exclusively by reservists called to duty in time of actual conflict. In time of so-called peace, it has been skeletonized to the degree that production has been critically limited.

A fourth limitation of intelligence lies in the research process itself. An error in basic data, if not recognized, can become magnified progres-

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sively to produce entirely false conclusions. In intelligence work the cost of such errors may be measured in human life. Recognizing this limitation, intelligence workers must exercise every effort to avoid the use of incorrect data and to review most carefully the conclusions reached at each stage of the production effort.

Other more specific limitations, such as those of the physical equipment sometimes used in the collection of information, will be noted in other sections of this text. In connection with the general limitations indicated above, it is apparent that several can be reduced to a minimum and perhaps eliminated. The controlling factors include time, with its accumulation of experience, and an increased understanding of the problems involved in intelligence production.

The Place of Naval Intelligence

The comprehensive body of intelligence knowledge may be compared to a large pyramid, at the top of which are placed the most highly refined estimates needed for national policy decisions. Each contributing organization is represented by a cross section of the pyramid. Into these sections is channeled the raw data acquired from thousands of sources at home and abroad. There is a descending as well as an ascending flow of knowledge within this pyramid, as specific requests for estimates are passed from the top down. The same holds true even within the organizational levels. There is also movement horizontally between organizations on the same level. The speed with which the knowledge flows within and to the top of the pyramid depends upon the efficiency of the various organizations which make

up the pyramid. Because of the changing nature of war itself there can no longer be watertight compartments of knowledge nor can any one of these organizations be considered self-sufficient. Each contributes to and receives from the total body of knowledge.

Naval Intelligence is an integral part of this pyramid. It produces what is known as departmental intelligence. It contributes to the total body of knowledge through the use of the professional naval training and experience of its personnel in interpreting and evaluating data concerning an enemy. It provides specialized naval agencies particularly adaptable for the collection of certain types of information. It gives guidance to the collection effort to assure that the information procured is relevant to the needs of naval planners and policy makers. It produces intelligence which will directly serve naval commanders in the solutions of their problems and the reaching of decisions both for overall planning and specific operations.

While Naval Intelligence must therefore contribute to the total body of knowledge, it must also utilize those parts of the total body of knowledge which directly or indirectly affect the successful accomplishment of its assigned responsibilities. The same applies to all other organizations of our national intelligence system. The only difference is one of emphasis.

For these reasons, the scope of this text is necessarily large, in order that it may serve at least two purposes: to indicate to the naval officer the broad body of knowledge with which he must be familiar, and to point out the specific naval uses of this knowledge.

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CHAPTER 2

THE DEVELOPMENT OF INTELLIGENCE

INTRODUCTION

Intelligence is neither new nor peculiar to modern times, whether it be interpreted as knowledge, as organization, or as production. While the emphasis on its many aspects has varied from time to time, intelligence has always existed in one form or another. Ever since men organized themselves into community groups they have sought for various reasons to dominate other groups, by means of military force or by political or economic measures backed by military force. Whatever the means employed, advance information about the enemy, when collected and processed, has been used to advantage from time to time throughout recorded history.

The story of armed combat is fundamentally a record of the historical evolution of military organization: from primitive men who fought as independent individuals with stones and clubs to modern men who fight as part of an intricate mass machine. As the organizations grew in size, so did the battles fought, requiring more and more the use of military staffs to assist the commanders in planning and carrying out their decisions. The history of this military growth has been divided into three periods: the first, from the beginning of written records to the fall of the Roman Empire, a period when military methods evolved from mob action into a recognized art, including practically all of the modern principles of war; the second, the Middle Ages, when there was almost no progressive military thought; and the third, from about 1632, the time of Gustavus Adolphus, to the 20th century, when modern military machines emerged. As military organization has developed, so has Intelligence.

Thus Intelligence has a military origin. Full knowledge has always been essential for the successful general. The French Marshal Maurice de Saxe, in recording his experiences, commented: "You cannot give too much attention to spies and guides . . . They are as useful as the eyes in your

head and, to a general, are quite as indispensable." To be found in one form or another in the ancient writings about war is the maxim: "Other things being equal, victory goes to the commander with the latest and the best information." Political leaders and the governments of nations have also made use of intelligence since the beginning of recorded history.

While both military and political leaders have long recognized the importance of gaining advance information, there have been times when they either failed to obtain it or neglected to make use of it. A study of military history reveals that many defeats in battle have resulted from failures to use intelligence. Indeed, there are indications that intelligence has had a marked effect on the shaping of world events.

Illustrative of a failure to use intelligence, and the effect on later events, is the case of the British Admiral De Robeck whose Anglo-French fleet won a complete victory in the Dardanelles during World War I. As a result the Turkish Government began the evacuation of Constantinople, and the Allies might have taken the city, had De Robeck made any effort to obtain information about the enemy. In ignorance he withdrew, and consequently the ill-fated and disastrous Gallipoli campaign was undertaken.

A striking feature of the historical development of intelligence is its slow progress, shown by the similarity of ancient and modern methods. There is little difference between the instructions of Moses to his 12 spies who were to go into the land of Canaan and those of Stieber, Bismarck's Intelligence Chief, to his agents who were to infiltrate France. The difference is merely in the numbers involved. In fact, modern intelligence seems to have little that is really new, although the character of intelligence has changed from time to time. Before the rise of nationalism, the collecting of information was a trade carried on

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by those whose services were at the disposal of the highest bidder. With the upsurge of the modern states, patriotism gave new motivation to the activities of the collector. In recent times, some of those engaged in intelligence activities are motivated solely by an ideological fanaticism which recognizes no national boundaries.

It is obviously quite difficult to trace the historical development of intelligence. It is seldom exposed to the public eye, and for reasons of security, those making use of intelligence cannot disclose methods, sources of information, and extent of knowledge. Available records, therefore, are relatively few and incomplete.

It is clear, however, that intelligence has not only been the first line of any nation's defense, but also the springboard of offensive action aimed at surprise and deception. At times it has taken the form of a shadowy undercover war of world-wide proportions. As a result, the outcome of great battles involving armies, navies, and air forces, has depended upon the result of conflicts between intelligence organizations. These have often taken place long before a declaration of war, and have continued after the signing of an armistice. The intensity of the total intelligence effort before and after World War II indicates that intelligence activity is of a long range and continuing nature.

Intelligence has served many purposes. From earliest times tyrants have subverted intelligence organizations into repressive systems of political police, thus placing exaggerated emphasis upon domestic espionage and counterespionage. Free people, too, have used intelligence to advantage in promoting and maintaining their national interests. Historically speaking, Intelligence has not been the exclusive tool of armies and governments, for it has also been used by revolutionaries, churchmen, bankers, trade unions, and criminals.

In this historical review, the intelligence activities of armies and governments are of primary interest. Much can be learned from past experiences for contemporary application.

EARLY HISTORY

The desire for advance information about a prospective adversary is an instinctive characteristic of man. Even primitive tribes, with only

the crudest weapons and no appreciable sense of group discipline, carried out reconnaissance of their enemies. For example, before a band of forest Indians set forth on the warpath, their chiefs sent the most able warriors to learn about the trails and streams in the area of attack and to discover the numbers, disposition, and state of preparedness of the enemy. The early successes of the American Indians against numerically superior and better armed white men were often the result of the Indians' superior, though primitive, system of intelligence.

Intelligence in Antiquity

Intelligence activity is as old as war. One of the earliest and best known records may be found in the Bible. Moses selected men from each of the twelve tribes and sent them into Canaan with these instructions: "See the land, what it is; and the people that dwelleth therein, whether they be strong or weak, few or many; And what the land is that they dwell in, whether it be good or bad; and what cities they be that they dwell in, whether in tents, or in strongholds; And what the land is, whether it be fat or lean, whether there be wood therein or not." It is to be noted that he chose leading men to do the job, and that their instructions included both the characteristics of the enemy and the area of potential operations.

But long before Moses, the Pharaohs of Egypt were receiving regular intelligence reports from their agents scattered beyond the valley of the Nile. The Egyptian army had a rudimentary staff organization which included an intelligence function, that of receiving reports from reconnaissance units. With the Assyrian armies as models, the Persians under Darius made further advances in military organization and planning. Herodotus' account of their invasion of Greece describes the extensive preparation that preceded their military campaigns. A system of staff organization was developed, and there is evidence of the *functional* existence, at least, of intelligence officers. The soldier kings, apparently, did not delegate any operational functions, but kept them inherent in command and so they have remained ever since. It is also most likely that the so-called "intelligence officers" were primarily collectors, and that the early military commanders who led

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their followers into battle solved their own intelligence problems and did not rely on intermediaries to digest information reports. However, they did develop extensive courier services for the rapid transmittal of intelligence and administrative reports.

Alexander the Great inherited an efficient military machine from his father and for thirteen years carried on continuous campaigns throughout the then-known world. While the basis for a military staff existed in the form of several officers under his personal direction, Alexander appears to have been his own intelligence and operations officer. He relied heavily on reconnaissance, which was essentially on operational function. Military postal censorship is reported to have originated with this Greek conqueror. During one of his expeditions into Asia he heard rumors of disaffection among his allies and mercenaries. In order to determine the true situation, he announced that he was writing home and encouraged his officers to do likewise. When all the messages had been collected, he examined them and proceeded to correct such conditions as appeared to have been justly criticized.

Intelligence in Ancient India

At about the same time that Alexander was extending his conquests, the famous Brahman, Kautilya, is reputed to have overthrown the Nanda dynasty and established the first Mauryan king on the throne of India. Kautilya is known not only as a kingmaker but also as the greatest Indian exponent of the art of government, the duties of kings, ministers, and officials, and the methods of diplomacy. A Sanskrit book of advice to rulers, attributed to him, reads in part almost as a modern manual on military and political intelligence. It emphasizes the fact that a highly organized intelligence service is essential to the state and of first consideration in both peace and war. In discussing the expansion and security of the state Kautilya says, "... he who has the eye of knowledge . . . can, with little effort, make use of his skill for intrigue, and can succeed by means of conciliation and other strategic means and by spies . . . in overreaching even those kings who are possessed of enthusiasm and power."

Kautilya recommends that his ruler should first strike the enemy at his weak points by means of spies. In describing the means to conquer an enemy's stronghold, he lists first "intrigue, spies," and "winning over the enemy's people." "Siege and assault" are last on the list. Although his terminology is a bit obscure, he accurately describes the modern fifth column and Soviet subversive activities when he says: "The arrow shot by the archer may or may not kill a single man; but skillful intrigue devised by wise men can kill even those as yet unborn." Distrust and suspicion are powerful weapons when forged within an enemy country.

Before beginning a military operation, Kautilya advises: "The conqueror should know the comparative strength and weakness of himself and his enemy" and no war should be undertaken without a careful examination of all the factors as reported by the king's spies. These factors could well serve as an outline for an estimate of the situation prepared by a modern military staff. "Having ascertained the power, place, time, the time of marching and of recruiting the army, the consequences, the loss of men and money, and profits and danger," the conqueror "should march with his full force." Kautilya divides the king's army into five parts: elephants, chariots, horsemen, archers, and spies and of these he considers the spies the most important.

The spy system of the Mauryans apparently rivaled that of the modern Soviets. It included many classes, both military and political, operating within India and in adjoining countries. One class shadowed the king's ministers and officials and attempted to determine their very thoughts. Another, drawn from the merchants and farmers, reported on the wrongdoings of the people. A third, whose sons and wives were kept at home as hostages, operated secretly in foreign countries, spreading unrest, committing acts of sabotage, and even assassinating political and military leaders. Official envoys to foreign kings were instructed to make friends with officials of the enemy, to contrast military stations, war material and enemy strongholds with those of their master, to determine the size and location of forts, to identify local intrigues, to sow dissension, and to determine enemy intentions.

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Counterspies and watchmen were employed; there were border guards to check on all who attempted to enter or to leave; and travelers had to have passes. In order to dispose of seditious persons who opposed the king, these persons were secretly incited to reckless action and then condemned. Kautilya reminded his king that he would be able to know all things through his spy system, and that his information should be considered reliable if received from three different sources in exactly the same version. He also emphasized the importance of the speedy transmission of information. The Mauryan Empire of India appears to have been a police state in the most modern sense.

Kautilya's book seems to have been a standard manual for the Mauryan rulers, and to have been based on experience. A study of the methods of this ancient dynasty, which was able to conquer and hold a greater part of India, sheds considerable light on the intelligence operations of any despotic state.

Intelligence and War in Ancient China

It is indicative of the early development of civilization in Asia that outstanding military and political leaders were recording their experiences and knowledge long before the same was done in Europe. About Kautilya's time in India, a Chinese General named Sun Tzu wrote a treatise on the Art of War which was so sound that its principles may be easily adapted to modern warfare. Sun Tzu discussed the fundamentals of war and the influence of politics and human nature on military operations. His writings indicate, in a striking manner, how unchanging these fundamentals are.

Writing as a field commander on the subject of strategy and tactics, Sun Tzu emphasized the importance of terrain study and accurate information about enemy strength and intentions. He stressed maneuver and deception and the attainment of victory by indirect methods. Like Kautilya, he recommended battle only as a final resort and placed primary importance on a good intelligence service: "A hundred ounces of silver spent for information may save ten thousand spent on war." His formula for victory aptly states the basic reason for maintaining an intelli-

gence service: "If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle."

Sun Tzu warns against information derived from appearances alone, and accepts only that which is obtained from intelligence agents. Most effective are those who have penetrated the high councils of the enemy and the operators whom we now term "double-agents." In addition, it is profitable to employ inhabitants of an enemy country to act as local spies, and to have other agents spreading false rumors for purposes of deception. Finally, there must be spies in the enemy forces to be firsthand sources of information. In selecting intelligence personnel Sun Tzu would employ only those with natural ability and of high mental caliber. He continues with the observation that if military warfare becomes necessary, "spies are a most important element, because on them depends an army's ability to move." Another Sun Tzu maxim has been heeded by both Nazi and Soviet leaders of recent years: "To fight and conquer in all your battles is not supreme excellence; supreme excellence consists in breaking the enemy's resistance without fighting."

Developments by the Romans

Quite independent of the Oriental generals, but about the same time, the Romans were developing their own military organization and doctrine in Europe. By the time of Julius Caesar the staff of each legion included ten "speculatores" who served as an information collecting agency. Caesar's successful campaign against the Helvetians was aided materially by advance information he acquired about their strength, movements, and plans. The "speculatores" are the first intelligence personnel to appear definitely in a military staff organization, and there is evidence that the Romans differentiated between the staff functions of intelligence and operations. This early distinction was not "re-discovered" by military commanders until relatively modern times.

The military success of the Romans was also aided by their communications system. Frontinus

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and Lipsius, in their writings, describe the training of swallows as long distance messengers and the use of carrier pigeons, which explains the amazing speed with which the intelligence of Imperial Rome was transmitted. An efficient intelligence organization was thus able to give warning of an impending surprise offensive by Hannibal and Antiochus in Asia Minor in time to enable Lucius Scipio to regroup his forces and administer a crushing defeat at Lydia. The Romans also employed ciphers to ensure the secrecy of communications.

Skillful covert operations were of positive military value. Scipio Africanus used his officers disguised as menials and servants to secure reliable data on the strength of the opposing Numidian army. His methods have a peculiarly modern flavor since, in order to gain time for accurate observations, he entered into negotiations with the Numidians, presumably to arrange a treaty.

In the following centuries of Roman imperialism, intelligence continued to be fostered by the emperors, and covert activities were practised to an unscrupulous and vicious degree in palace circles. Vegetius, in his advice to the Emperor Valentinian, states that a general may avoid defeat if he employs spies on whose intelligence he can depend. Like the military writers of Asia, he emphasized the importance of trying to sow dissension among enemy peoples, and comments that no enemy nation, regardless of how weak, can be completely ruined "unless its fall be facilitated by its own distraction."

The professional army of the Byzantine Empire also had a well organized intelligence service. Much more colorful, however, was the elaborate spy system of the Empress Theodora which permeated the entire governmental structure of the Empire. It should be noted that the oriental mind has always appeared to stress political over military intelligence.

The Middle Ages

Military intelligence in this period of chivalry was of little consequence to warriors for whom fighting was an individual sport. On the other hand, the Mongol conquerors who swept into eastern Europe from Asia during the 13th century

made use of not only an efficient intelligence system but also of an effective propaganda machine. Agents of the Mongol commanders ranged far in front of the invading hordes spreading rumors of Mongol terrors and collecting information on the weaknesses and rivalries of Europe. Local citizens were used to advantage. The Venetians, for example, striving to gain superiority over their rivals, supplied information to the Mongols in return for help in ousting Genoese traders from the Crimea.

In addition to agents disguised as merchants, the Mongol commanders maintained a screen of scouts in front of each column of soldiers. They appreciated the need for the rapid transmission of information, and established a pony post system across the whole of eastern Europe. The code of laws set up by Genghis Khan instructed his generals to send out spies and to bring in prisoners who would be forced to give information which could be checked against the reports of the spies. The Mongols provided for Western Europe an unheeded example of an effective military intelligence and staff communication system. They greatly influenced the Mogul Emperors of India who perfected an amazing political intelligence service. Among the personnel of this service were spies who visited houses twice daily for the ostensible purpose of removing refuse and trash.

Although the knights of medieval Europe scorned the advance collection of information about their enemies, the churchmen had no such scruples. They not only utilized already known intelligence collection methods but contributed variations of their own. De Torquemada, head of the Spanish Inquisition, developed a political intelligence system which has scarcely been equalled. Thousands of intimidated men, women, and children were encouraged to give information which would incriminate their own relatives and acquaintances. Large groups of spies were carefully trained, and a manual of instructions was prepared for their guidance.

The Renaissance of Intelligence

With the rise of nationalism and the development of modern armies the need for intelligence became apparent to the larger states. Following

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an Italian lead, the principal courts of Europe began to exchange resident ambassadors, one of whose functions was to collect information on the political and diplomatic activities, the plans, and the military strength of potential enemies. As time progressed an increasing volume of political and military intelligence, collected by covert as well as overt means, flowed into the various capitals of Europe to be processed and filed for use in making important strategic decisions.

As early as the 15th century French and German military organizations known as "Landsknechts," meaning "men of the country" as opposed to foreign mercenary troops, were developed. The staffs of these armies embodied the principal characteristics of the modern regimental staff. Because the quartermaster general had to precede the troops on the march in order to arrange for quartering and feeding, he also became responsible for reconnaissance. This functional development exerted considerable influence on the German and English staff systems. Gustavus Adolphus of Sweden created a "Chief of Scouts" on his Supreme Staff, indicating both his awareness of the importance of intelligence and his realization that intelligence as a staff function should be separate from operations and logistics. It is generally agreed that the military organization developed by Gustavus served as a pattern in Europe until the 20th century. With him, therefore, modern military history began.

While there are records of intelligence activities throughout English history and especially from the time of Cromwell and Henry VII, it was Sir Francis Walsingham, under Elizabeth, who gave England its first national intelligence service. His crowning achievement was the employment of a spy on the staff of the Admiral in command of the Spanish Armada. Thus he was able to obtain the most detailed information regarding the state of readiness of the Armada, its ships, equipment, forces, and stores. In addition, under Walsingham's guidance, the English Government persuaded the bankers of Genoa to withhold certain loans to Philip of Spain which delayed his naval offensive against the English.

In France, the crafty Cardinal Richelieu developed an effective intelligence organization. It

included a network of covert collectors who transmitted prompt and accurate information to Paris regarding the activities of the many rebellious and dissident elements of the kingdom. An expert in political intrigue and diplomatic maneuver, Richelieu used his intelligence forces to strengthen the central government of France. After him, Louis XIV consolidated his personal power by means of a systematized political police, continuous surveillance, postal censorship, and a peacetime military intelligence organization. The famous French general, Maurice de Saxe, organized an intelligence service which represented a considerable improvement over others of his time. Unlike the Germans, the French based their military staff organization on Roman theories. As a result, the French staff included officers charged with the separate functions of supply, administration, operations, and intelligence. By 1700 the pattern was set for the French staff system of World War I, and consequently for the system used by the United States Army. The French military writers of this early period appreciated the value of reconnaissance in major military planning and stressed professional knowledge as indispensable to national military power.

Intelligence activity appeared in other countries during the 18th century. In Russia it took the form of a political police system under the personal supervision of the Tzar. The forerunner of the dreaded Ochrana was the "Special Office," later called the "Secret Office," which was used extensively by Peter the Great. In colonial America, Baron von Steuben served as an intelligence and operations officer on Washington's staff. His recorded intelligence activities include an analysis of British and American capabilities and limitations and a personal reconnaissance of General Clinton's forces before the battle of Monmouth. All of the great European military leaders, including Marlborough, Prince Eugene, Maurice de Saxe, and Frederick the Great, appear to have recognized the importance of intelligence and used it. Each, in his own way, contributed to its development. Frederick the Great, for example, established four classes of agents for the collection of information and set up careful rules for selecting and training them.

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Expansion of Intelligence Activities Under Napoleon

Napoleon once said: "One spy in the right place is worth 20,000 men in the field." The truth of his remark was amply substantiated by one of his own agents, a man named Schulmeister, who managed to become the Chief of Intelligence for the Austrian general in command of armies opposing the French. Every Austrian plan and move was carefully reported to Napoleon, while false information was supplied to the Austrians. Undoubtedly the clever machinations of Schulmeister contributed materially to the brilliant French victories at Ulm and Austerlitz, which led to the surrender of Austria. It is of interest to speculate on what might have been the historical results had Napoleon's agent failed in his efforts.

Napoleon's personal staff included two bureaus of interest. The first, and most important, was the Bureau of Intelligence, staffed by two officers and an unknown number of agents. Its function was to consolidate all incoming information regarding the enemy for presentation to the Emperor, and to obtain such special information as he desired. The second, closely related to the first, was called the Topographic Bureau. Here was maintained a large situation map covering the latest information regarding both enemy and friendly forces. In the field the French Headquarters Staff was divided into four sections, one of which was responsible for reconnaissance, operational planning, communications, postal service, and the employment of guide companies.

It was at the beginning of the 19th century that large conscript armies came into general use, and with them large scale military maneuvers. Napoleon's genius for efficient military organization brought him resounding successes and tremendously influenced modern military theory and tactics. His military staff system was much more effective than that of the Prussians, and Intelligence served him well during a part of his spectacular career. It should be noted that during the wars between the French and the Germans, in 1806 and again in 1870, victory came to the side which had the superior staff system. It may also be said that victory at Waterloo came to the general who had advance information concerning the enemy and the area of operations.

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In addition to his military intelligence organization, Napoleon maintained an effective secret political police service over all of Europe. Under the shrewd and remorseless direction of Joseph Fouché, and later of Savary, this service was held in fear and terror. It was during this period that the system of spying upon spies reached such proportions that the term "counterespionage" came into popular usage.

Like England, France has had a governmental intelligence system almost continuously since the 15th century. But only during the time of Napoleon, and during and after the First World War, did the French system achieve the international scope of the English.

The Status of Intelligence in the United States

As already mentioned there is evidence that General Washington made some use of intelligence methods; however, there was no organizational development in the United States until the late 19th century. At the beginning of the Civil War the Federal forces had no intelligence organization, and Gen. George B. McClellan relied almost entirely on the Pinkerton Detective Agency to collect and evaluate information for him. Pinkerton himself served as a staff Intelligence Officer to McClellan, although he proved to be a poor substitute for a trained military observer. For example, in July 1862, McClellan based his military plans on Pinkerton's inaccurate estimate of Lee's strength at more than 200,000, while the actual opposing strength was less than 90,000. During the Civil War both the North and the South made use of spies. The tapping of telegraphic wires was employed for the first time. One writer of this period, while acknowledging the importance of intelligence and listing a number of recognized collection methods, felt it necessary to justify them as "honorable means of securing victory over the foe." It was during the Civil War that the United States Secret Service was organized, first as a military activity, and later as a Federal Government function.

Wilhelm Stieber and Modern Intelligence Systems

Together with the Frenchman Schulmeister, Stieber, who served as Prussian Minister of Police under Bismarck, developed the pattern for mod-

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ern intelligence systems. His claim to fame in this field is based both on the quality and the extensiveness of his organization. His influence throughout Europe was tremendous, especially in France and Russia. With Stieber's assistance Bismarck was able with lightning speed to overwhelm Denmark in 1864, Austria in 1866, and France in 1870. Even the great German General Moltke was amazed at the vast amount of pertinent military information supplied by Stieber for facilitating the rapid advance of the German armies, to the extent of making possible an accurate timetable for the victorious march into Austria.

Stieber's activities in Austria for the 2 years prior to the invasion are an early modern example of the German fifth column technique. Methodically he gathered information on fortifications, troop concentrations, and supply capacities, and recruited agents and saboteurs. By the time of the Franco-Prussian War he had an estimated 12,000 spies scattered throughout Europe, and boasted that some 85 writers on French newspapers were under his control, not to mention paid sympathizers among Italian, Austrian, and English journalists. He set up a system of military censorship and organized a Central Information Bureau for propaganda purposes. He concentrated on developing statistical and biographical knowledge, including the industrial potentials of possible enemy states and detailed data regarding their politicians, diplomats, and higher civil employees. In addition to gathering information about roads, bridges, arsenals, fortifications, and lines of communication, he was interested in data on population, commerce and agriculture, local politics, and patriotism. Imitating Napoleon, he established the first formal system of German counterespionage.

As one of Bismarck's most trusted advisers, Stieber organized an effective secret police system. He was also adept in the field of political intelligence. His work in alienating Russia and France prior to the war with France in 1870 was highly effective. In 1867 he arranged for an attempt to be made on the life of Alexander of Russia who was on a diplomatic mission to Paris, but he also arranged to frustrate and capture the assassin. To cap it all, at the trial he bribed the French

jury and obtained an acquittal. The ultimate effect was that the Russians were antagonized and canceled further efforts to form an alliance with France.

Stieber created for Germany a superior intelligence system which was feared and respected throughout the continent of Europe. Because of his influence, however, the German intelligence system always retained some of the characteristics of a police organization.

Beginnings of Japanese Intelligence

The Japanese early applied their imitative talents to the organization of up-to-date intelligence systems for both their Army and Navy. As a result, they were able to use Intelligence as an effective offensive instrument in the Russo-Japanese War of 1904-5 and to overwhelm its Russian counterpart. The Japanese victory in this war has been attributed in large measure to the effectiveness of their intelligence activities. For example, at Port Arthur advance information was obtained regarding the Russian minefields and the power station, transmission lines, and powerful searchlights designed to blind the attackers. With this knowledge, the Japanese fleet captured the port with minimum losses in a remarkably short time. The Japanese were particularly successful in the speed with which they collected and transmitted information.

During the 18th and 19th centuries, intelligence was centralized and systematized primarily at the highest governmental levels. It therefore had a political emphasis and often a secret police bias. In the military field, each general often served as his own intelligence officer and directed his own intelligence system. With the increasing complexity of modern warfare, together with the added burdens imposed by larger, more diverse armies, greater logistical support and expanding areas of operations, commanders came to require better staff organizations, including adequate intelligence sections. The impact of the striking Prussian victories of 1867 and 1870 had a tremendous effect on European military thinking and gave credence to the writings of such theorists as Berthier and Clausewitz. By 1900 the major European powers had developed modern staff systems and had placed intelligence on the same level

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with personnel, operations, and logistics, designed to function in times of peace and war.

The Development of the United States Intelligence Organization—Navy

The improvements and expansion of the world's navies during the latter years of the 19th century caused the Navy Department to realize its need for information from abroad. The building of new ships of steel instead of wood had begun, and the best available technical data were required in order that these ships might incorporate the latest methods of construction and the most up-to-date equipment. Accordingly, in March 1882 the Secretary of the Navy established by General Order an Office of Intelligence under the Bureau of Navigation for the purpose of "systematizing the collection and classification of information for the use of the department, in relation to the strength and resources of foreign navies." The following year the Secretary emphasized two functions for the Office of Intelligence: the collection of information regarding the progress of naval science and the dissemination of that information. Not only commanders, but all other officers, were directed to collect and submit appropriate professional material to Intelligence. From the beginning, therefore, Intelligence was given the primary mission of collecting, interpreting, and disseminating information of value to the Navy. Commanders in chief were also directed to appoint an officer, preferably of their personal staffs, to perform the duties of fleet intelligence officer; and commanders of ships were to appoint an officer of their command for similar duties. The emphasis was on positive foreign intelligence and on technical information such as ship construction and ordnance. There was some initial opposition to the new intelligence office from some of the Bureaus, but the office was soon accepted.

Lt. T. B. B. Mason was selected to head the new office and was designated as the "Chief Intelligence Officer." To him is due much credit for the early organization of the Office of Naval Intelligence. He was assisted by two other officers in Washington, with one naval attaché in London. In view of the fact that the office was not established by congressional action, there were no appropriations for maintenance; accordingly, clerks

and equipment were borrowed from other offices and bureaus. This situation existed until after the Spanish-American War.

The activities of Naval Intelligence during the Spanish-American War are of particular interest. There was a broadening of responsibilities, with a shift in emphasis to intelligence for strategic and operational use. The Office of Intelligence prepared data on the strength of the Spanish Navy and the condition of Spanish home and colonial ports. At the same time, the attachés were authorized to negotiate abroad for the purchase of ships and munitions of war, and six cruisers were purchased in this manner. In order to strengthen the position of attachés in collecting information abroad, requests for information by official foreign representatives in Washington were channeled through the office.

After 17 years of operation, the Office of Intelligence was established on a permanent basis by Congress in 1899, with regular appropriations for carrying on its work. It was charged with obtaining information concerning the latest construction and equipment of warships during peacetime, and producing knowledge of the strength and disposition of enemy forces in time of war. It was to assist in maintaining the Navy in a proper state of readiness for naval operations and in providing knowledge to aid in the conduct of hostilities.

The administrative responsibility for the Office of Intelligence was shifted a number of times during the first 30 years of its existence: from the Bureau of Navigation, to the Office of the Secretary, to the Office of the Assistant Secretary, back to the Bureau of Navigation, and to the Office of the Aide for Operations. Finally, in 1915, when a Chief of Naval Operations was created by law, the Office of Naval Intelligence was established permanently as one of the divisions under Naval Operations.

During its formative years the Office of Naval Intelligence was organized on the basis of the subject matter with which it was concerned: there were desks devoted to ships, ordnance, personnel, communications, and steam engineering and electricity. At this time technical information took precedence. One early Intelligence publication was entitled "Coal, Docking and Repair Facilities

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of the Ports of the World: With Analysis of Different Kinds of Coal."

At various times prior to 1900 the Chief Intelligence Officer had additional responsibilities, such as: translation of foreign documents, preparation of the War Plans of the Navy and the Auxiliary Naval Force. Intelligence also prepared various kinds of information reports for the Naval Bureaus and for the Naval committees of Congress. In 1889 the regular report of the Secretary of the Navy included the following comment regarding Intelligence: "Its value to naval legislation and to naval administration is now fully recognized." Prior to World War I the development of a comprehensive intelligence organization was slow, and serious problems arose in connection with the availability of trained officer personnel. As a result civilian employees were used as much as possible to permit continuity of effort.

Since collection was a basic responsibility of Naval Intelligence, the collectors assumed an early importance. The United States Navy sent its first attaché to London in 1882, the year the Office of Intelligence was established. One additional attaché was later accredited to France, Russia, and Germany. As late as World War I, the Director of Naval Intelligence expressed the opinion that his office existed largely for the support of the attaché system. As official agents for collection purposes, the naval attachés were cautioned to use reputable business methods. Adequate financial support was a major problem, and officers volunteered for attaché duty with full knowledge that their expenses would exceed their pay and allowances. This situation soon created a prejudice against these posts and rendered difficult the assignment of qualified officers.

The Development of the United States Intelligence Organization—Army

The Army's Attaché System dates from 1889. However, prior to World War I, the military attachés received little guidance or support; nor is it certain that the information they collected was properly disseminated. As in the case of the Navy, financial support was a serious problem and the selection of officers as attachés was often a haphazard matter governed either by personal acquaintance or by the availability of an officer with

a personal income which would enable him to meet the expenses of diplomatic life in a foreign capital.

The importance of intelligence to the Army was emphasized by Mr. Elihu Root when in 1902, as Secretary of War, he argued for the creation of an Army General Staff. In this connection he said: The Commanding Officer "must determine at what points and by what routes the place shall be approached, and at what points his troops shall land . . .; and for this purpose he must be informed about the various harbors of the island and the depth of their channels; what classes of vessels can enter them; what the facilities for landing are; how they are to be attacked; the character of the intervening country; how far it is healthful or unhealthful; what the climate is likely to be at the season of the proposed movement; the temper and sympathies of the inhabitants . . ."

Primarily as a result of Mr. Root's efforts, the Congress created in 1903 an Army General Staff with three major divisions: Administration, Military Information, and War College and Military Studies. In subsequent years new divisions were established and Intelligence was placed under the War College. The few officers assigned to Intelligence before World War I had a constant struggle against prejudice, a half-hostile tradition, and inadequacies of operating facilities. Such intelligence effort as was possible was confined to collection, with little processing or dissemination. As late as April 1917 the Army's Intelligence Section consisted of only 2 officers and 2 clerks.

Such was the status of military intelligence in the United States just prior to the First World War. By contrast, the major European powers at the same time had military intelligence organizations operating as general staff divisions.

WORLD WAR I

The many tensions which had been building up for 50 years finally exploded in World War I. Perhaps some of them were observed by various intelligence groups, especially during the fateful year of 1913. Some writers have suggested that certain situations, such as the Austro-Balkan conflicts, might have been averted had intelligence

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knowledge and organization been properly exploited.

In any event, the various military intelligence services of Europe all believed themselves to be prepared to handle any situation, but they were not prepared for a long general war. Suddenly they found themselves short of trained personnel, and without sufficient funds. Their peace-time efforts had not been adequate. The German system was coasting on its past reputation, while the Russians had never developed a modern or efficient system. Although British Intelligence was small, it had a nucleus of organization and a background of experience capable of rapid expansion. French Intelligence, in the first critical days of the war, failed in its estimate of enemy strength. It did not anticipate the possibility of early German use of reserves, which put twice as many troops against the French armies as had been estimated. General Joffre's battle plan was based on this erroneous estimate and had to be completely revised, practically at the time of actual conflict.

Belgian Intelligence, activated as late as 1912, collected vital information on the new German siege guns, the capabilities of which indicated serious weaknesses in the Belgian defenses at Antwerp, Liege, and Namur. However, the General Staff considered the reconstruction of these defenses too expensive and too time-consuming to be worth the effort. In addition, it was believed inadvisable to disturb their popular King with such bad news. The high command was also informed by Intelligence of the presence near the Belgian border of a German force of six brigades with a mass of artillery. The German tactical surprise at Liege, therefore, cannot be credited as much as a German success as an Allied failure to take proper countermeasures. Failures attributed to Intelligence have often been failures of a high command to utilize the intelligence available to it. As an additional example, at the Battle of St. Quentin the British Army suffered its most shattering defeat of World War I. At the same time, it had available the most elaborate collection system to be found in an area of combat.

The nature of this war, of course, determined the pattern of intelligence activities. Developments in transportation—the railroad and the motor truck—made possible the use of large ar-

mies and permitted the movement of sufficient ammunition and supplies to support the great artillery battles and the masses of men engaged in trench warfare. This tactical situation, in which the defensive position was stronger than the offensive, resulted in the static kind of warfare characteristic of World War I. Discipline, training, and tactics were important factors in determining victory. Intelligence, therefore, concentrated on information about the armed forces of the enemy and their capabilities.

The introduction of aircraft as implements of war added a new method of collection: aerial reconnaissance. Both the area of operations and the activities of the enemy behind the battlelines were brought into focus for observation, reporting, and use.

A Cryptographers' War

The employment of great armies over broad areas increased the requirements of communications. These were met by the perfection of wireless telegraphy. Codes and ciphers assumed a new significance and intelligence found an expanded field of operations. In fact, from the intelligence standpoint, World War I has been described as a cryptographers' war. At times the outcome of land and sea battles was determined in advance of actual conflict by those who intercepted and broke the enciphered operational messages of the enemy.

Several examples will be given in a later discussion of communications intelligence, but two can be mentioned here because of their particular impact on the course of the war. At an early stage of hostilities two Russian armies, the First and the Second, were advancing separately against East Prussia, with the objective of joining forces for an attack against Hindenburg's army which was numerically superior to each, but inferior to their combined strength. The First Army failed to receive the field communications code which both were to use and was forced to send in plain language a message advising that it would be delayed three days in joining the Second. On the basis of this intercepted information, Hindenburg attacked and massacred the Second Army in the famous Battle of Tannenberg; then crushed the First Army 3 weeks later. Russia never re-

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covered from this action and gradually slid into ruin and revolution.

Early in 1917 the German ambassador to Mexico was given secret instructions to negotiate an alliance with Japan in order to promote an attack by that country on the United States, with the aid of Mexico. As her reward Mexico was to receive three of the American States. This secret message known as the Zimmerman note, was intercepted and broken by the British who gave it to the Americans. This incident had much to do with bringing the United States into the war.

A War of Spies and Agents

Many tales have been told of the colorful personalities in World War I who worked secretly to obtain information or to protect it. The story of Mata Hari, the exotic dancer and condemned spy, has come to epitomize the romantic and adventurous secret operative and to give the general public its strongest impression of those associated with intelligence activity. In spite of this fact, her actual effectiveness as an agent is considered questionable. There were agents, however, whose work was of considerable importance.

One of the better known was Capt. Franz von Rintelen, a German agent who contributed in no small measure to impeding the flow of American supplies to the British prior to the entry of the United States into the war. With a talent for organization, he promoted pro-German and anti-British sentiment in this country. His efforts on the New York waterfront were particularly successful. There his ingenious sabotage caused ships bound for England to blow up or catch fire. Labor unions were goaded into crippling strikes against production and war shipping. A phoney supply firm was organized which took several million dollars of Russian money for war material which was subsequently destroyed at sea.

The Middle East was the scene of widespread and significant underground activity, German versus British. In Persia a German agent named Wassmuss was so effective that four British warships and several thousand troops were eventually dispatched to curtail his efforts. On the other hand, Lawrence of Arabia organized and controlled local tribes so effectively that he had more

value to the British than many thousands of soldiers.

According to Gen. Maximilian Ronge, director of the Austrian Intelligence Service, secret agents were able to advise the enemy well in advance of every major attack that was projected in World War I. However, military high commands repeatedly failed to take advantage of this vital information. One interesting example is the Battle of Caporetto which the Austrians mounted against the Italians in October 1917. From the Austrian point of view, this battle was their most successful surprise attack of the entire war. It combined sound military judgment and thorough preparations with a skillful offensive use of intelligence. Weeks in advance of the battle information was gathered regarding critical adverse political conditions existing within the civilian population in northern Italy. This information was disseminated to the Italian front line troops just before the battle by means of carefully initiated Italian newspapers. Espionage, counterespionage, censorship, and propaganda were all employed in this operation. The effect was devastating and the Italians lost 600,000 men as casualties and prisoners. The success of this engagement, however, was not the result of surprise. The Italian general had been fully warned of the intentions of the Austrians from several sources, including American Military Intelligence. It was successful because the Italians failed to act.

The Myth of German Intelligence

In 1914 German Intelligence still enjoyed a high reputation for offensive effectiveness throughout Europe. However, in the absence of strong leadership supported by the government in power, the formidable organization created by Steiber under Bismarck had deteriorated badly. In addition, the German Imperial Staff was so confident of a quick victory that it could see no need for Intelligence.

Actually, at the outset of the war the German military intelligence system broke down. From 1906 it had concentrated its collection efforts in Russia and France. Its work was seriously handicapped by inadequate financial support, lack of trained personnel, and active opposition from the diplomatic corps and other groups within the gov-

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ernment. When Col. Walther Nicolai was appointed Chief of the Intelligence Service for the High Command in 1913, he found that there was no top level guidance for military intelligence. As a result, his organization did not understand the political and economic factors involved in its work. Apparently Naval Intelligence was more effective, but liaison was poor and there was no coordination.

When war began, unlimited funds were allocated to Intelligence; but, Nicolai commented afterward, "money alone will not build up an Intelligence Service." The German collection effort in the British Isles had been neglected because the High Command did not believe Britain would enter the war. In addition, British counterintelligence was quickly able to apprehend the few German agents who were operating in the home islands. German Intelligence immediately suffered a black-out of information and had no advance knowledge of the arrival in France of the British Expeditionary Force which joined with the French Army to defeat the Germans at the First Battle of the Marne.

Nicolai found it necessary to reorganize military intelligence under the most adverse conditions. When appointed to his post he held the rank of major, and he soon found that his junior status was a real handicap. When war started his best officers were transferred to staff duty with the various armies. The commanding general of the army marching through Belgium considered his intelligence officers so unnecessary that he left them behind at Liege.

Reasons for the initial failures of German Intelligence included lack of preparedness, general neglect of overall responsibilities, and lack of foresight. Military and political leaders failed to recognize the importance of developing a good intelligence service at the right time and overlooked the vital necessity for coordination of effort. Counterintelligence was also understaffed and handicapped at the start of the war, with no central direction, especially within Germany itself.

In spite of its weaknesses and initial failures, German Intelligence improved materially as the war progressed. It achieved considerable success in its espionage and sabotage activities in the

United States under the direction of von Rintelen, and completely disrupted the French Intelligence Service prior to the Battle of Verdun. It aided the Russian revolutionary movement by transporting Lenin across Germany into Russia.

After the war was over, Nicolai wrote a detailed account of the wartime problems of German Intelligence and the conditions under which it operated, stating: "Its character and methods . . . should be generally known if it is ever to succeed both in carrying out its own tasks and in thwarting the activities of the opposing Intelligence Services. This applies also to States which possess no Intelligence Service, have no adequate idea of its importance, and do not realize how their people and their political freedom are threatened . . ." On the basis of subsequent developments, there is reason to believe that Adolf Hitler read Nicolai's book most carefully.

French Intelligence

The influence of Stieber in France was tremendous. By 1900 the Deuxieme Bureau had been established as part of the General Staff System and made responsible for all enemy information and the topographical service of the command. The staff was composed of the following divisions: administration, intelligence, operations, and supply. This French system was to exert a strong influence on the development of the United States Army Staff during World War I. French naval attachés, unlike the British, were given direct control of the Naval Secret Service operating in their areas.

A Civil Intelligence Service operated under the chiefs of police of the various larger cities, with headquarters at Paris. This service was based on the organization established under Napoleon III. Nicolai considered France as the "perfect master" in the field of political and military intelligence, "directed by a strong and deliberate power policy."

Russian Intelligence

Under the Tzars, Russian military intelligence had no centralized administration and suffered because of an inadequate number of personnel and no system for training. Full use was made of military attachés in the collection of information,

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although some were compromised by disclosure of their undercover activities. The incompetence of the General Staff had a direct effect on the work of Intelligence which was far from consistent in performance. It failed in Germany, while it succeeded in Austro-Hungary. By means of black-mail, the Russians obtained from the Chief of Austrian Intelligence, prior to the war, a list of Austrian agents operating in Russia and, more important, the complete Austrian battle plans. However, the Russian High Command, relying on this accurate information, failed to anticipate the probability of any changes in plans by the Austrians when they learned of the treachery of their Chief of Intelligence. As a result the Russians almost lost the Battle of Lemberg in Galicia.

Spying has always been a specialty of the Russians and they have been adept in the arts of counterintelligence. Using the informer system established in France under Napoleon as a model, the Ochrana perfected the employment of the "agent provocateur" for purposes of internal security and political repression. Some of the most active Russian revolutionaries were trained by the Ochrana. In addition, the so-called Black Cabinet served as a private censorship office of the Tzar and for a time brought under its cognizance even officials of the Ochrana.

British Intelligence

The statement has been made that the British entered World War I with the worst intelligence system in Europe and ended with the best. Whether the first part of the statement is true or not, it is apparent that the initial organization was small, with limited funds available. At the beginning of 1914 there was a total staff of 14 to handle the counterintelligence section of military intelligence. Only 2 years earlier military staff doctrine had been formalized to include operations and intelligence functions within the same branch. Still earlier, the modern British Secret Service Department had been founded in more or less its present form. At the outset, however, the British were able to capitalize on the weaknesses of their opponents and to counter successfully the intelligence activities of the Germans. In an amazingly short time sources of vital information were being exploited with significant results. It is quite pos-

sible that the economic and financial organizations of the far-flung British Empire were helpful in developing many of these sources.

Naval Intelligence expanded rapidly along with the total British Intelligence Service, achieving its greatest successes by means of censorship and its code room, the celebrated Room 40 O. B. With these means were combined a skillful use of covert agents. For example, an agent was placed in the German Admiralty where he had access to secret codes. On this agent's initiative, Admiral von Spee was ordered to attack the Falkland Islands. When the German squadron arrived it was met and destroyed by the waiting British. Illustrative of the work of the code room was an intercepted message which warned the British of an impending German naval attack on the eastern coast of England. The result was the Battle of Jutland which forestalled the coastal attack and crippled the German Grand Fleet to the extent that it remained in its home ports for the balance of the war. The unfailing ability of Room 40 O. B. to break the enemy's codes aided immeasurably in the war against German submarines.

By early 1918 the British Intelligence Service had reached a new peak of efficiency in the collection of information and the production of intelligence. Nicolai, commenting later on British Intelligence, expressed the opinion that its work was unique and unsurpassed. The American Forces in Europe, which depended greatly on British Intelligence, regarded it as the best service in the world. The amazing accuracy of British information may be attributed in part to the extreme care with which all reports were checked. The reporting records of all agents were kept in great detail in order to determine their degree of accuracy and reliability over long periods of time. Some agents, known to be employed by the enemy, were left at large in order that the British might know what the enemy wanted them to believe. Another basis for the strength of the British Service may have been its reported corps of covert agents scattered throughout Europe, quite independent of its recognized attaché system.

The British record in World War I was not without blemish. One failure occurred at the Battle of Jutland when vital information failed to reach the commanding officer in time to be of use.

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As a result the German fleet managed to escape destruction. In retrospect, the British commander commented that the shore intelligence organization and the command afloat must be more closely linked "to insure mutual confidence and service." The problem, in this case, appeared to be one of coordination and communications.

United States Naval Intelligence

When war broke out in Europe the Office of Naval Intelligence was an organization inadequate for war purposes. Its personnel included 8 officers, 10 civilians, and 6 attachés. In an effort to keep abreast of rapidly changing conditions, Naval Intelligence, in 1915, established a War Information Service to obtain military, political, and economic information regarding potential enemies. At the same time, the office was reorganized on a functional rather than a subject matter basis. Four major sections were created. Section A was given administrative responsibilities and the control of the collection of confidential information at home and abroad. Section B included cryptographic activities and a clipping service. Section C acted as a processing agency, while section D handled dissemination, archives, and a reference center. There were other sections concerned with translation, disbursing, filming, printing, and mail. For the first time, funds to carry on confidential work were provided by the Congress.

Immediately upon the entry of the United States into the war there was a great expansion in the organization and activity of Naval Intelligence. The number of officers on duty jumped from 8 to 300, and the number of attachés was doubled. Since it was apparent that the intelligence services of the Allies could supply full information regarding the enemy in the European theater, domestic counterintelligence became a principal activity.

This work was delegated to Aides for Information, now known as District Intelligence Officers, who were assigned to each of the Naval Districts. Their responsibilities included investigations, plant protection, ship inspection, and naval personnel, both military and civilian. Branch Intelligence Offices were established as undercover agencies in large seaports and manufacturing centers. These offices grew to consider-

able size and accomplished much useful work. As an indication of the extent of naval counterintelligence in the United States, over 3,000 individuals were actively engaged in its various activities at the peak of the war. Although cable and radio censorship was under the cognizance of Naval Communications, Intelligence provided considerable assistance. In the domestic field there was some conflict of interests between Naval Intelligence and such other Government agencies as Military Intelligence, the Departments of Justice and Treasury, the Emergency Fleet Corporation, and the War Industries Board.

Abroad, the naval attachés continued to have as their primary responsibility the collection of information. The quality of their work during the war was subject to considerable criticism, especially by staff officers assigned to United States Naval Forces, Europe, with headquarters in London. Adm. W. S. Sims, in command of this force, was also critical of the evaluation of initial reports by Intelligence headquarters in Washington. At the same time, he fully recognized the importance of intelligence and stated that the "efficient and intelligent exercise of command is entirely dependent upon information." It was his expressed point of view that there should be an entirely separate Intelligence Section on a naval staff which would work in the closest cooperation with the other staff sections. He stressed the opinion that Intelligence should be prepared to be the first in the field in the event of war. Some of the criticism of the work of the naval attachés can undoubtedly be attributed to the fact that the number of personnel was inadequate to permit the satisfactory performance of their assigned responsibilities. It was also found that the personalities of officers performing attaché duties and their ability to work easily with representatives of foreign intelligence services were of great importance.

United States Military Intelligence

Col. Ralph H. van Deman, called the "father of American Military Intelligence," played an important role in the postwar recognition of Intelligence as a separate function of the Army's General Staff. He was materially aided by the Secretary of War, the Army's Chief of Staff, and General Pershing himself. The latter made Intel-

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ligence a coordinate section of his staff even before his forces landed in England in June 1917. The British, and especially the French staff systems influenced the staff organization of the American Expeditionary Forces in Europe, with the result that Intelligence sections were created at both higher and intermediate echelons. When America entered the war, Army Intelligence was rapidly expanded.

The central office in Washington was organized into three branches. The positive branch was assigned the functions of collection, evaluation, and dissemination. Its responsibilities included preparation of situation estimates and translation of documents. The negative branch carried out counterintelligence functions, including investigations regarding disloyalty and sedition, enemy activities, and graft and fraud in organizations under the control of the War Department. Thousands of officers and men were engaged in this field. The Geographic Branch was concerned with the production of maps, photographs, and terrain studies. In addition there were sections for administration, collection of information by attachés and troops, and codes and ciphers.

In connection with MI8, the code and cipher section, it should be noted that this type of work was almost unknown to the War Department prior to World War I. Its activities were many and varied and have been recorded in some detail by H. O. Yardley in his book, *The American Black Chamber*. However, this section was regarded only as a wartime agency by the Director of Military Intelligence and high Government officials, and was discontinued shortly after the war was over. During its relatively short existence, it demonstrated the importance of cryptography as an intelligence procedure essential to the successful prosecution of war.

In the European Theater there are interesting examples of the effectiveness of Army Intelligence. One concerns the discovery of vital information on German submarine operations in the North Sea and around the British Isles. In October 1917, after a successful raid over England, the German zeppelin *L-49* was forced down in France. Scraps of an operational map were obtained through the persistent efforts of an American colonel who waded through a swamp over

which the zeppelin had traveled. The map contained a code covering the North Sea and British Isles area. It meant little, however, until a code book was recovered from two American souvenir hunters who had rifled the cabin of the *L-49* prior to the arrival of Intelligence representatives. With the map and the code book, the Allies gained complete data on German submarine operations and were able to surprise and destroy a large number of U-boats at their designated rendezvous.

The activities of the military attachés in Europe and the military observers attached to the European armies during the first part of the war appear to have been handicapped by organizational deficiencies. In the War Department's Annual Report for the year 1919, the Chief of Staff commented that the valuable information gathered by these military observers was never properly used. During this period, the attachés were involved in counterintelligence work which proved both difficult and delicate.

It was not until August 1918 that the Military Intelligence Division was established officially as coequal with the other Divisions of the Army General Staff. In commenting upon this development, the Director of Military Intelligence stated that correct military information can be obtained only as the result of correct staff organization. He added: "Our Army now has its eyes open. It is the duty of every officer to study and support our intelligence organization in order that our Army eyes may never again be closed." At the height of its activity, near the close of the war, the Division in Washington was staffed by more than 1,200 highly specialized persons, of whom the majority were civilian employees. The field force was enlarged and improved, with representatives in all important foreign countries, in the major cities of the United States, and in each military unit at home and overseas. Army Intelligence personnel were utilized by the American Commission during the peace negotiations in Paris.

By the end of this war, there was apparent recognition of the close relationships which should exist between intelligence and national strategy and between intelligence and war planning. Brig. Gen. Marlborough Churchill, Director of Military Intelligence, wrote that national policy is based

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on accurate predictions regarding the international future and that war plans must be grounded on correct detailed information. "There is hardly an officer who does not realize that at a G. H. Q. and at the headquarters of every army, corps, division, and similar unit, G-3 cannot make good plans unless G-2 furnishes good information." A strikingly similar statement was to be made more than 30 years later by the Army's Chief of Staff, Gen. Omar Bradley, in relating his personal experiences in World War II.

Perhaps the most important single contribution made by the United States to the development of offensive intelligence method was the employment of aircraft to transport covert agents over the battlelines to and from areas under enemy control. In this connection, however, it should be noted that the head of Army Intelligence, at the end of the war, believed that covert agents could not be justified by the military in time of peace. In this belief he appears to have reflected the thinking then current among Washington officials.

THE INTERWAR PERIOD

In the period between World Wars I and II, political developments in each of the major nations distinctively shaped the emphasis on and therefore the results of intelligence. Having fought a war to end all wars, the United States sharply curtailed its military expenditures and embarked upon a program of world peace. Public opinion was such that there was a necessary and rapid demobilization of both civilian and temporarily commissioned personnel. A similar situation existed in Great Britain, where a conservative government sought a return to the status quo. In France, Intelligence suffered increasingly from growing political corruption. On the other hand, restrictive political police systems became the foundation and support of autocratic governments in Germany, Italy, and Soviet Russia, not to mention other smaller countries in central and eastern Europe.

The Neglect of Intelligence in the United States

The intelligence organization which had begun to assume some form by the close of World War I deteriorated rapidly. Military Intelligence, such as it was, suffered from insufficient funds, lack of

appreciation or sense of responsibility on the part of the State, War, and Navy Departments, and, most of all, from a feeling by most officers that an Intelligence assignment was undesirable. For the most part, Intelligence billets were filled by officers awaiting retirement. Such capable officers as were assigned found little opportunity or encouragement to improve the situation. There was no successful effort to recruit or train new personnel.

The organization of Naval Intelligence practically fell to pieces. Contributing factors were the general desire to return to "normalcy," and a feeling of antagonism toward any organization involving classified activities. In 1920 the Secretary of the Navy assured the Congress that the activities of Naval Intelligence in the collection of information at home had been restricted and the office reduced to its prewar status. At the same time, the Director of Naval Intelligence was constrained to state that the activities of his office were now the same as they had been in 1882. The number of attachés abroad was cut drastically.

By 1938 world political conditions had stimulated an increase in the number of naval attachés. However, the collection of information was inadequate and there were too few trained persons to process what was collected. By late 1941 the organization of Naval Intelligence had been expanded in Washington, in the naval districts, and overseas. The volume of incoming information increased correspondingly, but the years of neglect and inactivity could not be overcome so quickly.

The Condition of British Intelligence

The published records of expenditures approved by Parliament for governmental intelligence organizations indicate roughly their status during the period from 1919 to 1939. More than \$5,000,000 were appropriated in 1919. The following year operating funds were cut to about one fifth of that amount, and during succeeding years there were still further reductions. Although the British had developed the best intelligence organization in Europe during World War I, they soon found themselves with little more than a skeleton force, incapable of much

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productive action. Fortunately, however, the vital nucleus was retained upon which to build again.

By 1935 there were indications that British Naval Intelligence was active once more in the Mediterranean area. One of its self-revealed agents, Dod Orsborne, has given an interesting account of his own assignment. His purpose was to obtain and to transmit information about Mussolini's activities in Ethiopia and about the progress of events in Spain. He was disguised as the skipper of a boat whose appearance could be radically altered from sailing vessel to steam trawler to diesel-driven fishing boat. He landed agents in Spain, the Balearic Islands, Morocco, Algeria, and Libya and brought back vital information to his contact at Gibraltar. His story is not only colorful, but also indicative of one type of intelligence operations in the Mediterranean during the period of increasing tension some years before the outbreak of war.

By 1939 the funds reported as available to British Intelligence had been increased to more than \$2,000,000. Once again the British were to develop the most efficient intelligence organization in the world. Two of their initial and basic problems were those of personnel and training. For the impending war, therefore, their early intelligence efforts were necessarily defensive. Their success has been attributed, in part at least, to qualities of discipline, imagination, and improvisation.

The Decline of French Intelligence

At the close of World War I, France had one of the most efficient and extensive intelligence systems in Europe. The head of Military Intelligence, through his membership on one of the important Allied commissions, was able to expand his organization of covert agents throughout Europe during the early postwar period. As the newly created national states of central and eastern Europe developed their own governmental structures, their intelligence systems were closely coordinated with that of France. By this ingenious method France was able to advance and to protect its national interests and to maintain an intricate network of agents and informers. The resulting organization was superior to that of Stieber and the equal, at least, of that of Napoleon.

In the decade before the Second World War, this organization was fatally weakened by the germs of internal corruption which spread throughout the nation, and which eventually aided the Germans in infiltrating both the political and military structure of France, thus further weakening the French intelligence system.

The Expansion of German Intelligence

As early as 1924 the Chief of German Military Intelligence, Nicolai, declared: "Now that intensive military, political, and economic espionage, after its successes in the World War, has become an official organ of the state, it is time that the public should recognize the fact." While the United States and Great Britain sought peace through the reduction of their wartime organizations, the Germans strove to profit by their mistakes and to forge invincible weapons for military victory. The growth of a dictatorship under Adolph Hitler and the National Socialist Party encouraged, promoted, and soon absorbed this effort of the German militarists.

The militarists, including Ludendorff, were convinced that World War I had been lost because of a failure to organize the country for total war, behind the battlelines as well as at the front. Acutely aware that this war had shifted the emphasis of attack to the minds and emotions of both soldiers and civilians, they recognized the great importance of propaganda. Lenin had enunciated the idea of an initial moral disintegration of the enemy before attempting physical attack; and Hitler was in complete agreement. In *Mein Kampf*, he wrote, "In the future, the place of the artillery barrage as preparation for an infantry attack will be taken by revolutionary propaganda, designed to break down the enemy psychologically before the armies begin to function at all."

To carry out this new type of warfare a new armament of knowledge was required. As soon as Hitler assumed power he gave high priority to the organization necessary to produce that knowledge. By 1937 the new German intelligence system was operating at peak efficiency with all of its many branches carefully coordinated by a Liaison Staff, of which Rudolph Hess was the chairman and Nicolai a permanent member. Included

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in this system were: the Intelligence Service of the War ministry, under the direction of Nicolai; the Abwehr, or Military Intelligence, under Admiral Canaris; the Auslands Organization (AO), or Organization of Germans Living Abroad, headed by Ernst Bohle; the Special Service of the Foreign Office, headed by von Ribbentrop; the Foreign Department of the Propaganda Ministry, under Goebbels; Rosenberg's Foreign Political Office; the Foreign Department of the Ministry of Economics and Finance; the Reich Colonial Office; and the Foreign Department of the Gestapo, under Himmler and Heydrich.

Hitler's personal plan for world conquest was based upon means which were not only military, but also economic, political, and psychological. To make it effective, full information and accurate estimates were required concerning the entire resistance capability, both actual and potential, of prospective enemies. Knowledge of actual rearmament was not as important as rearmament potential; the capacity of an enemy's war industry was not as significant as the total industrial potential which could be geared to war purposes. Prof. Karl Haushofer's Geopolitical Institute at the University of Munich thus became an additional important branch of the German system devoted to the collection of information and the production of intelligence. With unlimited funds available, Haushofer employed more than a thousand research workers at home and abroad, including historians and economic statisticians. Detailed analyses of the more important countries of the world were prepared from the point of view of their political, economic, and sociological structures. Both geographic vulnerabilities and minority group problems were included in these studies.

Such was the comprehensive and complex German intelligence system. It was a worldwide organization for the gathering of vast quantities of information, with elaborate facilities for classifying, evaluating, and converting that information into intelligence. Under the Nazis, intelligence as an activity was a huge enterprise, operating with the precision of a modern machine. No longer was intelligence a matter of individual accomplishment but rather the combined achievement of many groups. The dimensions of the new

organization were drawn to accommodate the requirements of global war, fought by many means. It was a system new to the modern world.

In developing this organization the Nazis were influenced considerably by Soviet methods. For example, the machinery of diplomacy was carefully geared to intelligence operations. Special agents were attached to embassies, legations, and consulates throughout the world under the guise of military, naval, air, commercial, and press attachés. Networks of covert agents were tied in with these special groups. The worldwide organization of German-born men and women was exploited wherever possible. Its potentialities were great, as indicated by the size of its membership which was officially reported in 1937 to be 3 million, and an additional 100,000 sailors serving on German ships. Special organizations in Germany were utilized, such as the Students' Bureau, the Bureau for Educators and Teachers, and various labor and cultural groups. Even the German youth were carefully organized and trained to believe that sabotage, murder, and spying were natural expressions of loyalty to the State and Der Führer.

Every conceivable method was employed to gain information. One of the more technical was the breaking of diplomatic codes. A clever device of the German Foreign Ministry was the delivery of an important note to foreign embassies on a quiet weekend which would require the embassy to request instructions from its government. When such enciphered messages were presented to the Reichspost for transmittal, German cryptanalysts would attempt to break the codes used, capitalizing on the possibility that the message had not been paraphrased and would contain the German note verbatim. Whether or not this particular device was used against the Belgians, it is true that their diplomatic code was known to German Intelligence before the outbreak of World War II.

Initially at least, within the War Ministry, Nicolai was able to coordinate all Military Intelligence activities—army, navy and air—and to achieve an overall political guidance through liaison with the Foreign Office. Under Hitler, therefore, Nicolai's theories became practice for a limited period of time. In addition, he was able to expand the field of military intelligence interest

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to include not only fortifications, military personnel, and materiel, but also such behind-the-line matters as communications systems, public utilities, and scientific and technical developments.

Careful and early planning was a key feature of the German system. For example, the Abwehr, under Admiral Canaris, had selected its foreign listening posts and personnel with the greatest of care years before war came. There are indications that even the isolation of Germany by its enemies was given consideration, and well-laid plans were prepared by the Abwehr to permit the continued flow of information into Berlin from various areas outside of Europe.

Intensive advance planning, in which Intelligence played a vital part, found its most startling expression in Hitler's development of the modern offensive weapon which came to be known, after the Spanish Civil War, as the fifth column. Highly effective in a number of foreign countries, this weapon consisted of corrupt, politically dissatisfied, self-interested people who were won to the Nazi cause by means of propaganda and master-race doctrines. Many of these people remained inactive and unknown, to be used for special purposes when military conflict began. Then bridges were seized and road blocks formed by men in civilian clothes or local uniforms; and planned sabotage threw into confusion local defenses, supply systems, and transportation and telecommunications.

German Intelligence operations abroad were many and met with varying degrees of success. In France the political and moral disintegration provided the Nazis with a most rewarding opportunity for fifth-column activities. A number of Frenchmen whose loyalties were bought by German gold and promises held important positions in government and came from some of the first families of the land. The frequency of trials for treason in the prewar period revealed the gravity of the situation. Involved in some of these trials was betrayal to the Germans of secrets of the Maginot Line, the Belfort fortifications, and plans of the Metz fortress and the Toulon Naval Base. In other countries of Europe the appearance of the quislings after war began revealed the success of earlier German operations.

Fully aware of the failure of German Intelli-

gence in Great Britain in 1914, the Nazis were determined that it should not fail again. Accordingly, large numbers of agents were sent into England years before Poland was invaded. The extensiveness of their activities is indicated by the number of espionage cases which were uncovered during the years from 1935 to 1939. Not all were caught, however. One successful agent who went by the name of Van Schullermann first arrived in England in 1927. By 1932 he had become a naturalized citizen, well established in a modest business near the naval base at Scapa Flow. Over a considerable period of time he seems to have gathered accurate information about the antisubmarine defenses for this base. At any rate, to his efforts is attributed the German success in penetrating Scapa Flow and sinking H. M. S. *Royal Oak* early in the war. At the outset of their intelligence efforts in Britain the Germans were able to take advantage of the fact that the British were in no way prepared for hostilities, either in fact or in spirit. But again, in 1939 as in 1914, the Germans were unable to cope successfully with British counterintelligence. Emphasis on quantity rather than quality of effort, and stereotyped methods, again were important factors in the German failure.

Nazi intelligence activities in the United States began in 1933, soon after Hitler came to power. German shipping was utilized to introduce covert agents into the country and to transmit information back to Berlin. By 1938 vital defense secrets were reaching German Intelligence files. Among them were blueprints for new bombers and fighters, stolen from aircraft plants in New York and Pennsylvania; key designs of naval ships, revealing possible weaknesses; and certain codes of the Army Air Force. On the west coast German agents were relaying information to the Japanese; and members of the German-American Bund were striving to obtain classified maps of fortifications in the Panama Canal Zone.

Within Germany itself, Hitler's intelligence system was equally comprehensive. The Nazi leaders fully realized that they must establish absolute control over the German people if they were to control the world. Accordingly, even before Hitler came to power his henchmen had laid plans for a secret police system. In 1932 there were

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138,000 German police; a year and a half later there were 437,000, of whom almost half were members of the Nazi Elite Guard, called the Schutz-Staffel, or SS. By 1940 the SS alone totaled 432,000 men, organized into 36 divisions of 12,000 men each. During war this army was designated to hold the inner front. A significant part of the SS was the secret police force called the Gestapo, a name which came to strike fear and terror into the minds of men. The Gestapo was not only inquisitive in nature; it was an inquisition. Its purpose was to hunt out, repress, and destroy all enemies of the Nazi State. Its methods were characterized by brutality, if not bestiality. Its eyes and ears gradually penetrated all phases of German life.

It must have seemed to the Nazis that they had indeed forged an invincible weapon for their complete success. It was well made; and Hitler soon put it to triumphant use in Austria, Czechoslovakia, and other areas of Europe. However, the Nazis failed to control the inevitable human factor which eventually led to the serious weakening of their entire Intelligence apparatus. Distrust arose and increased between the leaders of the Gestapo and those of the Abwehr of the Army General Staff. There were conflicts between the secret police and military intelligence, especially as to spheres of authority and responsibility. Rivalries became intense, with much personal jealousy and animosity. By 1938 Hitler found it expedient to form a high command of the armed forces and to relieve the general staff of any responsibility for the interpretation of intelligence. The political direction, urged by Nicolai, became political domination.

Italian Intelligence

Mussolini's major military intelligence effort was demonstrated briefly during his campaign into Ethiopia in 1935. It took the form of subversion of the Coptic priests in order to render even easier the overthrow of their government.

The principal Italian Intelligence organization was the Fascist Secret Police, known as the OVRA, established officially in 1926 as a direct result of the insecurity of the Fascist government and a succession of attempts to assassinate Mussolini himself. Its weapons, applied with liberality

against the Italian people, were fear, terror, and absolute power over life and death. The OVRA, as part of the state militia, devoted itself to obtaining information about all enemies of the state, both within Italy and abroad. Agents provocateurs were active in Europe and in North and South America, where they attempted to hunt down and destroy Italian antifascists. One of their effective weapons against those who managed to escape from the country was holding as hostages families who had been left behind.

In 1938, when Mussolini entrusted his political fortunes to Hitler, the German Gestapo entered Italy in force and rapidly replaced OVRA with its own organization.

The Rapid Growth of Japanese Intelligence

Even before Hitler began to implement his concept of total war in Europe, the Japanese were putting many of the same theories to use in Asia. For example, the political and moral disintegration within Manchuria—an early objective for aggression—provided an excellent opportunity for the use of the fifth column technique.

For many years the head of the Army's Bureau of Military Information, Colonel Doihara, had been active in China. Using many disguises, from peddler to priest, he had traveled about the country, gathering information and enlisting the services of dissident elements and criminal groups. He was particularly successful in utilizing agents provocateurs to create incidents which would justify interference in China by Japanese military forces. In the summer of 1931, for example, he arranged for the kidnapping of the commander of the Manchurian Infantry. Several days later, a group of men dressed in uniforms of the Manchurian Infantry provoked an argument with a Japanese officer on the streets of Mukden and brutally killed him before a crowd of onlookers. Taken into custody, these men stated that they had acted under the direct orders of their commander. When an explanation was demanded by the Japanese Government, the commander, of course, could not be found. Immediately the Manchurian Government was accused of protecting this officer and encouraging atrocities against the Japanese. After diplomatic denials were presented, the officer in question reappeared. Hav-

ing been well treated, he was unable to support his story of kidnapping and was completely discredited.

In addition to this type of direct pressure, the Japanese employed more subtle, though equally effective, methods. The Chinese opium industry was exploited and the sale of its product promoted among the people, with the double-edged result of further destroying their moral fiber and at the same time providing financial support for the whole operation.

As Japanese plans for expansion in Asia developed, so did her requirements for information to be used to support conquest by military, economic, political, and psychological means. The allocation of more than \$3,000,000 to official Japanese intelligence services for the fiscal year 1934-35 is indicative of the attention given to their development. Listening posts and personnel were gradually established in Malaya, Singapore, Burma, Java, the Philippines, Morotai, French Indo-China, and India. After the "China Incident" of 1937 the activities of military intelligence materially increased. With Manchuria and Korea as bases for operation, the collection effort against Soviet Siberia was intensified. Long before their attack against Pearl Harbor, the Japanese had extended their intelligence network throughout the world, utilizing agents of many types.

Trained agents were provided in part by the Army General Staff. As the demand for personnel increased, it became necessary to establish secretly in 1938 a Rear Area Service Personnel Training Center, which was soon expanded into an Army Intelligence School. Officers trained at this school were sent abroad as military attachés, diplomats, newspaper reporters, businessmen, or special agents. Their activities included: the collection of information and liaison work; the organization of small guerrilla groups, especially in China, for scouting and undercover operations; and sabotage and subversion, which was concentrated in southeast Asia and the islands of the Pacific. These officers were the vanguard for Japanese military action, paving the way for the occupation of various areas by Japanese troops.

Naval officers also acted as special intelligence agents and were distributed throughout the merchant marine and fishing fleets disguised as wire-

less operators, crew members, and ships' officers, especially in the Pacific. Thus training maneuvers of the United States Fleet, for example, were watched by expert eyes from nearby Japanese cargo ships or fishing craft. There were, of course, many situations in which Japanese personnel could not be used because of their oriental appearance. As a result, Caucasians were often employed, particularly Germans, in such areas as Hawaii, the United States, and South America.

In addition to their trained personnel, the Intelligence services had available literally thousands of amateur collectors of information, for one characteristic of the Japanese is careful and conscientious observation. More important, they feel impelled to report their observations to proper authorities. As a result, great quantities of information were channeled into Tokyo from travelers, tourists, Japanese living abroad, and business firms operating in foreign countries. These amateurs usually had cameras and made the most of their opportunities to photograph warships, naval bases, and other subjects of possible military interest. Reports and photographs were turned over to military authorities, either directly or through consulates, special messengers, or representatives of the merchant marine. While much of this information was inaccurate or without value, it was all carefully classified and processed by the Intelligence agencies of the Army and Navy and the Information Bureau of the Foreign Office. This technique of capitalizing on the mass collection of information is a Japanese contribution to the modern development of intelligence activity.

The collection procedures of the Japanese in the prewar period also indicate their appreciation of the importance of peacetime planning and preparation, years in advance of actual conflict. An excellent illustration is provided by one of their agents, a Dr. Kuehn and his family, who came to Oahu, T. H., from Germany in 1935. Dr. Kuehn posed as a scientist interested in the ancient history of the islands. About 1939 his daughter, Ruth, opened a beauty shop, which served as an excellent source of information gathered from its patrons who were the wives of United States Navy personnel. As Japanese requirements for information became more definite, Dr.

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Kuehn began to forward through the Japanese and German consulates specific information regarding naval ships at Pearl Harbor. On December 2, 1941, a complete report on the number, types, and exact locations of United States naval ships in the Hawaiian area was prepared for the Japanese consul who transmitted it by short-wave radio to Japanese Naval Intelligence Headquarters. At the appropriate time, the Kuehns were to be evacuated to Tokyo by submarine; but this plan failed to materialize because they were apprehended and taken into custody as the result of action by the United States Naval Intelligence.

The Trend of Soviet Intelligence

During the early years between the two World Wars, the development and consolidation of power within Russia consumed much of the attention and energies of the revolutionists who had seized control of the government in 1917. For this reason Soviet Intelligence was, first of all, a security police system, with military intelligence occupying a position of secondary importance. Conditioned to an atmosphere of distrust and suspicion while they were revolutionary conspirators, the Soviet leaders fully appreciated the need for a highly organized and pervasive Intelligence system to maintain rigid controls over the actions and even the thoughts of the Russian people. Within 3 weeks after the revolution had become an accomplished fact, they established the *Cheka* which continued not only the tradition but also the methods of the Tzarist *Ochhrana*.

The *Cheka* was given great independence of action, with the power to carry out searches, arrests, and executions. Its ruthless and brutal methods inspired such fear and terror that it became the object of widespread opposition within a few short years. As a result, in 1922, when the Union of Soviet Socialist Republics was established, the *Cheka* was abolished. It was quickly replaced, however, by the O. G. P. U., which had its headquarters in Moscow, with branches known as G. P. U. in each of the member republics. The purposes, powers, and methods of this new organization were substantially the same as those of the *Cheka*, but its jurisdiction was expanded. The border and internal security troops were placed under its control, and a military section

was created to insure the political allegiance of the Army and the Navy. In 1934, the O. G. P. U. was replaced by the N. K. V. D. At this time there was further centralization of authority and a reorganization to include all police and firemen engaged in overt security duties. New sections were added to direct the surveillance of the civilian population and of foreign espionage agents. Soviet Intelligence had now become a full-scale commissariat of the government, far more comprehensive and powerful than anything ever envisioned by the Tzars. Its stability and deadly influence were fully demonstrated by its bloody purge of Red Army personnel in 1937.

The record of Soviet Intelligence within Russia during the period from 1917 to 1939 is one of steady expansion and increasing influence in every aspect of Russian society. Abroad it became more and more active, developing networks of agents and informers by many means. The international organization of Communists, the Comintern, provided excellent opportunities for intelligence activities in many countries. Diplomatic and trade channels were exploited for the collection of information by carefully placed intelligence agents. For example, more extensive Soviet intelligence activities in the United States are believed to date from 1933 when diplomatic relations were reestablished between the two countries. In fact, every conceivable situation was skillfully turned to the advantage of intelligence operations. In 1929 when Stalin expelled Trotsky from the Soviet Union, the N. K. V. D. made use of this situation to send abroad a number of covert agents posing as escaped sympathizers. Some legitimate sympathizers were permitted to leave the U. S. S. R. only after they had agreed to serve the N. K. V. D. The double result of this procedure was to provide a good cover for intelligence personnel and to confuse and discredit anti-Soviet groups outside the country.

The Spanish Civil War was also used to good advantage for intelligence purposes. Not only did Soviet personnel receive excellent practical training, but also valuable information was gained regarding the capabilities of other countries involved. One seemingly insignificant, but important, procedure initiated by the Soviets in this war was the careful collection of the pass-

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ports of volunteers who came from many countries to fight in Spain. The passports of those killed were saved for later use by Soviet agents in other parts of the world. This procedure provides a good illustration of long-range planning.

There are indications that Soviet Intelligence, or the use of intelligence, was not always successful in the pre-World War II period. At the outset of the Russo-Finnish War of 1939, Soviet forces suffered some amazing defeats at the hands of inferior Finnish armies. There was subsequent speculation that the Kremlin may well have been led by Finnish Communists to believe that their country's armies would not materially resist Soviet military maneuvers. If this was true, then Soviet Intelligence may have suffered from a tendency to place too much reliance upon information derived from affiliated foreign Communist organizations.

During the early part of World War II, a further reorganization of the Soviet Intelligence System resulted in the establishment of the People's Commissariat of State Security, called the N. K. G. B. This new agency relieved the N. K. V. D. of its functions in internal surveillance and the collection of information abroad.

WORLD WAR II

The Second World War has been described as one of unparalleled mobility, tremendous destructiveness, and intense savagery. The technological improvements in tanks and aircraft, when used in combination, made possible the lightning war, or "Blitzkrieg," so successfully employed by Hitler. Poland was conquered in 18 days and France fell in 35. The French General Staff, complacent and unprepared, was paralyzed by this new warfare of fluid movement. The techniques developed by the Germans were later used with equal success by General Patton in his drive on Paris. Other methods of warfare were developed with notable effectiveness. Strategic bombing brought destruction behind the battlelines to all parts of enemy countries, while transport aircraft carried conquering airborne forces across geographical barriers. Amphibious craft made possible the launching of land attacks from the sea which had been considered too difficult in previous wars. Inventions in the field of electronics produced such

weapons as radar and guided missiles for long-range battle use. The aircraft carrier replaced the battleship as the capital ship and made possible the waging of sea battles across hundreds of miles. Guerrilla warfare sprang out of internal resistance movements and was exploited on a wide scale. The submarine harassed lines of communications and committed sizable organized forces to its pursuit. The radio permitted an intensification of propaganda and the waging of psychological warfare in all parts of the world, a type of "strategic bombing" of equal effectiveness in peace or war.

World War II was much more than a series of battles between armies and navies; it was a gigantic struggle between peoples for survival and for the perpetuation of their economies and ways of life. Hitler's intelligence weapon had to be improved upon and surpassed by the opposing nations. The variety of the modern methods of warfare imposed even greater demands upon Intelligence, for it had to cover not only the armed forces of the enemy, their discipline, training, and tactics; in addition, it had to be conversant with industrial capacity, technological abilities, transportation and communication facilities, internal political situations, and the will of the people to resist. The speed of this war placed a premium on the time factor in the collection of information and the dissemination of intelligence. The complexity and scope of military action increased the problems of preparing accurate intelligence estimates which in turn led to the demand for more highly trained personnel. The sheer volume of advance knowledge required for success in battle forced the expansion of organizations to a size adequate for its production. The resistance movements in occupied and enemy countries aided materially in the collection of information. The unprecedented number of covert agents stepped up the work of both intelligence and counterintelligence. Radio and aircraft facilitated the transmission of information. The total impact of all of this intelligence activity rendered doubly important the most stringent security measures.

At the beginning of World War II, the preponderance of land and air military strength was in the hands of Germany, Japan, and the Soviet Union. Likewise, the offensive intelligence

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strength of Germany and Japan was superior. On the other hand, for over 2 years the Western Allies were harassed, driven back, and on the defensive, while they took time to prepare a counter-offensive.

The Effectiveness of German Intelligence

The Nazis began the war with the world's best organized intelligence service. Without detracting from the effectiveness of the German military forces, it is generally agreed that their early rapid progress was greatly facilitated by the advance preparations of Intelligence, which preceded and accompanied troop movements. Polish resistance was paralyzed by the Nazi fifth column which spread false rumors, issued conflicting orders, and transmitted vital operational information to the German General Staff. France, from the military point of view, was potentially much more powerful than Poland, yet fifth column activities had fatally weakened her ability to fight and, even worse, her will to resist.

Greece and Yugoslavia were able to prolong their resistance to German covert penetration. Time and the examples of Poland and France were of some assistance to them. In addition, the Italian OVRA, which had assumed some responsibilities to prepare these countries for invasion, failed miserably. In Greece, for example, German forces were required to save Mussolini from being thrown back into the Adriatic.

The German intelligence service had available unlimited funds, an army of agents, and a network of collection centers. At the beginning of the war \$200,000,000 were reportedly being spent annually on intelligence organization and propaganda. In 1943 the Abwehr was allocated \$11,700,000 and had a personnel strength of 30,000 including 7,000 officers. In Denmark alone there were 750 Nazi agents. The four major Intelligence centers established by the Abwehr for the collection of world information were located at Königsberg, Munich, Cologne, and Hamburg. Madrid, Lisbon, Berne, Ankara, Stockholm, Budapest, and the Vatican were centers for the collection of information on a long-range basis. Brussels, Warsaw, Sofia, Bucharest, The Hague, and Paris were considered short-term centers. One network of agents was distributed among the

various diplomatic, consular, and commercial posts in these capitals. A second network worked independently in the collecting and transmitting of information for strategic and tactical use. One of the specialized types of collectors was a group of deaf-mutes who were skilled in the reading of lips and the recording of conversations seen but not heard.

In Great Britain, during the early months of the war, the Germans achieved some successes. The transmittal of vital information regarding war factories in Birmingham and Coventry aided in the bombing of those areas. The German legation at Dublin served as one collection center; while Lisbon and Oslo were relay points between England and Berlin. However, British counter-intelligence soon proved more than a match for German Intelligence, whose effectiveness rapidly dwindled in the British Isles. In fact the British success in forwarding inaccurate information, ostensibly from German agents who had actually been taken into custody, confused and bewildered headquarters in Berlin.

The entire Middle East was the scene of intensive intelligence activities by German agents located in Syria, Iraq, Saudi Arabia, Turkey, and Afghanistan. The total organization extended from the Mediterranean coast of North Africa to the Indian Ocean. The objectives were to undermine British influence among the Arab peoples and to prepare them for German domination by means of corruption and subversion. In these efforts the Germans had the active assistance of the Grand Mufti of Jerusalem. The German commercial attaché at Ankara was instrumental in fomenting an unsuccessful rebellion against the pro-British government of Iraq. The German ambassador at Ankara, Franz von Papen, was provided with more than \$4,000,000 in gold to finance his work in the Middle East. But in spite of this well-organized and numerically superior machine, German Intelligence failed in its efforts. It also failed to forecast the Allied invasion of North Africa.

Of particular interest is the "Cicero" affair which took place in Turkey during late 1943 and early 1944. "Cicero" was the code name of an employee in the British Embassy at Ankara. He became a German spy, motivated by a desire for

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money and possibly an old hatred of the British. As a result of his efforts the Germans were provided with highly classified material of incredible value: a record of official messages passing between the British Ambassador and the Foreign Office in London. In this manner it is believed that the German Government was fully informed of the latest figures of American lend-lease deliveries and anticipated shipments; the minutes of the Allied Casablanca Conference; a résumé of Allied conversations at Moscow between Stalin, Anthony Eden, and Cordell Hull, including a report of the Russian demand for a second front in Europe; decisions reached between Roosevelt, Churchill, and Chiang Kai-shek at Cairo; and, finally, the conclusions of the Teheran Conference, including decisions of the military staffs of the Big Three. But even more incredible than the nature of the information itself is the apparent fact that the German military and political leaders failed to make use of it. Von Ribbentrop seems to have questioned the accuracy of the information and the source remained suspect. The only real value to the Germans of "Cicero's" work was the breaking of the British diplomatic code.

In South American countries, German Intelligence exploited important sources of information. The German Ambassador to Argentina, Baron von Thiermann, coordinated the collection effort in this part of the world. For transmittal purposes he had available 12 powerful secret radio stations, operating with the knowledge of Argentine authorities. As of 1942, over \$2,000,000 were being spent annually in Argentina to subsidize German cultural organizations. There can be little doubt that information derived from Buenos Aires and various other ports in South America aided the operations of German submarine warfare in the Atlantic.

Weaknesses in the German intelligence service rapidly diminished its overall effectiveness. Its elaborate mass training of agents resulted in a standardized type of operation and response which facilitated detection, and overcentralization of organization tended to reduce individual initiative. Political considerations were an increasingly limiting factor. Tension and distrust grew between political and military leaders on the one hand and Army General Staff Intelligence personnel on the

other. As the war progressed actual leadership was concentrated in the hands of political leaders and military men chosen and influenced by them. Vital decisions were reached more and more by Hitler himself on the basis of intuition, rather than intelligence. This was particularly true in the campaign against the Soviet Union. Hitler and his henchmen often refused to accept unfavorable reports, even though well documented. As a result, intelligence personnel on all echelons came to color their reports, emphasizing the favorable factors and withholding or mitigating the unfavorable.

There is some evidence to support the contention that Admiral Canaris, Chief of the Army Intelligence Section, was in active sympathy with those German military leaders whose opposition to the Hitler regime resulted in an abortive attempt to assassinate Der Fuehrer in 1944. At the Nurnberg trials following the war, Ernst Kaltenbrunner, the head of the German Security Police, stated: "I had to accept this post (the Reich Security Office) at a time when suspicion fell on Admiral Canaris of having collaborated with the enemy for years . . . In a short time I ascertained the treason of Canaris to a most frightful extent." Whether or not the individual involved was Canaris himself will probably never be determined. It is known, however, that the British gained possession of information which could have come from very few other sources. For example, all German plans for aggressive action prior to the invasion of France were reported to the British. They were warned of the impending attack on Norway in 1940. Winston Churchill had some knowledge of the plans for the invasion of England at a time when only a few highly placed officers of the German General Staff had similar information. It is of interest to note that much of this information gained by the British was disregarded, perhaps for lack of confirmation.

Suspicion against Canaris reached such proportions that he was relieved of command of the Abwehr in 1944 when Hitler established a unified secret intelligence service more directly under his personal control.

German military intelligence was weakened by the attitude of the officer group toward it. In the

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German staff organization, Intelligence was subordinated to Operations. While intelligence officers were expected to have a clear understanding of tactical situations, no particular specialization of knowledge or training was considered essential. German officers did not regard an intelligence assignment worthy of a soldier and, consequently, endeavored to avoid it whenever possible.

However, the performance of military intelligence must not be underrated. It remained a formidable weapon during World War II. The relationship of Intelligence to Operations kept the study of the enemy situation on an immediately applicable basis. All officers had been carefully trained to develop qualities of thoroughness, sense of duty, logical approach to problems, and accuracy. In spite of no special training, they became competent in these assignments as a result of hard work and careful study. Their ability to gather facts and piece together an accurate picture of the enemy situation was often amazing. They were most successful in the interrogation of captured enemy personnel. Their radio intercept work was of a high order and a profitable source of information, especially after the Germans lost their air superiority. It was unfortunate for military intelligence that those officers who had trained themselves in intelligence were transferred in due time to other assignments more to their liking and ambition. But, as far as results were concerned, German military intelligence, which had been only mediocre in World War I, performed rather successfully in World War II, especially when permitted to function without the blight of political interference.

The Errors of Japanese Intelligence

The remarkable mass collection system of the Japanese provided Tokyo with a wealth of vital information prior to the outbreak of war. For example, when it was ready to move troops into Southeast Asia, the Imperial High Command had complete and accurate models of the defenses of Hong Kong down to the last gun position. Its detailed information regarding ship positions and movements in and around Pearl Harbor was used with devastating effect. However, the Japanese intelligence organization was not provided with a sufficient number of trained personnel at the

higher echelons to assemble and evaluate the mass of material which had been collected.

At the time of Pearl Harbor the Intelligence Section of the Army General Staff included only 17 officers. Its growth was negligible until early in 1945 when 40 additional officers were assigned to be trained for duty with the armies organized for the defense of the Japanese islands. The development of Naval Intelligence was equally slow. Beginning with 29 officers attached to the Naval General Staff, the total number was increased to 97 by early 1945. The *Kempeitai*, or secret police, was primarily responsible for counterintelligence and was well organized, with trained personnel to carry out this function. It achieved a reputation similar to that of the German Gestapo, and many of its methods were comparable.

The slow and limited development of Japanese Intelligence appears to have resulted from the high command's concept of a short war, defensive in nature, following the initial conquests. Based on the possibilities of an early German victory in Europe and the rapid consolidation of her own newly won territories, Japan believed that the United States would settle for an advantageous compromise peace. As a result, neither the Army nor the Navy expanded their intelligence organizations to make possible the production of intelligence for dissemination throughout all levels of command. At the headquarters level, intelligence for both the Army and the Navy was subordinated to the war plans sections and responsible primarily for the production of background intelligence. There was apparently little coordination between the intelligence effort at headquarters and at the operational levels.

In the field, intelligence units were utilized by military commanders for such purposes as the collection of tactical information, penetration and subversion of native peoples, and the exploitation of economic sabotage. These units often worked with the military governments established for conquered territories. The unit attached to the Nanking Government Military Affairs Committee, for example, was particularly active in the preparation of surveys and statistics and in attempting to influence and control the activities of the local Chinese. In general, however, these units were not effective, for a variety of reasons. In the first

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place they were not organized in sufficient time to permit the accomplishment of their responsibilities. One unit, created for the battle of the Pacific islands, became operational just 2 months before hostilities began. Another reason was the Japanese failure to appreciate the customs and habits of other peoples and an attempt to impose their own, without change. They alienated those whom they sought to control, and operated by means of intimidation and threats. There was continuous conflict over responsibility and authority between military commanders, intelligence units, and representatives of the secret police. Finally, many operational commanders had no appreciation of the potential value or use of the intelligence units assigned to them, particularly from a long-range point of view.

When Japan's diplomatic relations with many countries were broken, her primary sources of information were reduced to Allied communications transmissions, short wave and medium wave radio broadcasts, and newspapers and magazines procured through neutral sources.

Special agents planted in the Western Hemisphere continued to supply some information, with diminishing degrees of success as the war progressed. The case of one American citizen who served as an agent is illustrative of the use made of the nationals of various countries for espionage purposes and, incidentally, of the devious means employed for the transmittal of information. Mrs. Velvalee Dickinson, owner of an exclusive doll shop in New York City, made use of her occupation and clientele to transmit information regarding the movement of United States Navy ships. Various kinds of dolls provided an ingenious code. Her messages were transmitted via a contact in Buenos Aires. The suspicion which led to her discovery was aroused when one of her letters to Argentina was returned to the United States, addressee unknown. The Japanese had failed to notify her that her contact had moved. This incident has been popularized as "The Case of the Talking Dolls."

These, then, were some of the errors of Japanese Intelligence, which were in turn errors of the Japanese High Command. They contributed to heavy losses in Japanese manpower and materiel and were factors in Japan's eventual defeat.

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The Resiliency of British Intelligence

Although decidedly inferior to that of the Germans in numbers and resources at the beginning of the war, British Intelligence made maximum use of its available strength and centuries of experience. Much of the German Intelligence activity in Britain had been carefully followed and its organization penetrated. When the Germans marched into Poland, therefore, it was comparatively easy, by means of extensive raids and arrests, to destroy the overall effectiveness of German Intelligence in Britain in much the same way as it had been accomplished early in World War I.

After Dunkirk, when the British faced one of the most precarious and dangerous situations of their history, Intelligence proved to be a bulwark of defense. Appalling weaknesses were successfully concealed from the Germans and accurate information made possible the skillful use of inferior military forces. In his book, *Top Secret*, Robert Ingersoll has aptly commented: "Intelligence was always the Empire's ace in the hole. When British fortunes were at the lowest ebb, it was their Intelligence organization which saved them."

Once the country was on a war basis, ample funds and personnel became available, but the training of personnel required considerable time. It was not until several years had passed that British Intelligence was able to develop its outstanding organization, again conceded to be the "world's best." By that time many covert agents of British, French, and German nationality were active within Germany itself. Innumerable bits of information, often irrelevant in themselves, flowed regularly into London for analysis by various intelligence agencies. Through the European governments-in-exile, in London, encouragement was given to the underground resistance movements which sprang up against the Germans all over Europe. The time came when British Intelligence was able to operate fifth columns in many countries of Europe as effective as those of Hitler.

The British had many assets upon which their intelligence organization could draw. In addition to comprehensive experience, internationally educated, politically informed soldiers and civilians were available who were adept in dealing

with foreign peoples. Their basic research and available source material were tangible assets. Their military and political leaders had a real and full appreciation not only of the value of intelligence, but also of long-range planning.

Typical of British Intelligence personnel was a young man named Rankin who had lived all of his life in the inaccessible Chin hills of Burma. He knew the Burmese, Chin, and Manipur languages, dressed and lived like the natives, and had a sincere affection for them. Even though the natives in these hills were anti-British, Rankin was able to influence them to support the Allied cause.

A more intangible asset was the ability of the British to improvise. When their armies were driven off the continent and their channels of information blocked, they devised a means of extracting military information from photographs taken over enemy-held territory. In a relatively short time the results obtained were successful to a spectacular degree. The development of photographic interpretation as a technique for the collection of information was a significant British contribution to intelligence in World War II.

A further asset was the control of the information upon which military decisions were made. This control, as well as effectiveness of presentation, was well demonstrated at the major political and military conferences held by the Allies during the war. In the European theater, for example, their intelligence organization was so complete that they were given primary responsibility for enemy intelligence in that theater. In the Middle East, British agents, experienced in local customs and traditions, surpassed the Germans in winning the support of those peoples. As is often true in the Orient, the bribe was the key to support, and it was often a case of outbidding the Germans.

One of the real achievements of Intelligence was a delay in the German use of V-bombs against Britain. Preliminary reports about German development of V-weapons were received as early as 1942, and a female special agent was able to transmit vital information concerning the activities and installations of the main research station at Peenemuende. As a result of her work, one of the most effective Allied air raids of the war was carried out against this area at a time when some of Germany's key scientists were there. Over 200 per-

sons were killed during this raid, including the director of the station and the Chief of Staff of the Luftwaffe. The raid substantially retarded the production of these new weapons.

British Intelligence, however, was not always successful. One of its failures contributed to the defeat of General Montgomery's forces at Arnheim. Just prior to this engagement Intelligence lost track of one German Panzer corps and was unable to determine its location, which unfortunately was Arnheim. The well-guarded movement of this corps is reported to have resulted from a betrayal of Montgomery's plans by a Dutch traitor. In any event, British losses were heavy. Some of the troops who managed to escape were aided by British agents in that area.

Throughout the war, Intelligence continued to underestimate German production capabilities, recuperative powers, and capacity to wage war. Basing its decisions on such estimates, the British General Staff discouraged an invasion of the continent from the west, believing that Germany's surrender could be brought about by aerial bombing. Opposition to invasion plans was further strengthened as a result of overestimating the strength of German fortifications along the channel coast. Captured German generals later pointed out that this overestimate had been caused by effective propaganda. A much earlier failure of Intelligence was its incorrect appraisal of German intentions in Norway, just prior to the occupation of that country.

For a short period during the war there was intense rivalry between the Intelligence and Operations staffs, which temporarily blocked the interchange of important information. As a result, on one occasion, both groups put agents ashore at the same place on the coast of Norway within an interval of 3 days. The agents from Operations destroyed vital targets in the area and withdrew. When the Intelligence agents arrived they received a warm welcome from the German field police.

In the field of counterintelligence the British were of considerable assistance to the Federal Bureau of Investigation in both North and South America, and this mutual cooperation was of real value in smashing the Nazi espionage activities there.

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The Rapid Growth of a United States Intelligence Organization

Surprised and dismayed by the progress of world events leading up to World War II, the United States gradually became aware of the inadequacy of its intelligence agencies which it had so pointedly neglected. The success of the Japanese attack at Pearl Harbor disclosed the tragic results of this neglect. Even more, it revealed a lack of coordination of effort in the collection of information, interdepartmental jealousies which stymied effective exchange of information, and incorrect estimates of the war capabilities of the enemy.

As a result, the older intelligence agencies were expanded and strengthened, and new agencies were created to develop sources of information and new techniques. Among these agencies were: a foreign propaganda agency, an economic warfare agency, a war production agency, the Office of Strategic Services, a branch of the foreign economic administration, and special units in the Departments of Justice, Interior, and Agriculture.

Founded in 1908 and reorganized in 1924, the Federal Bureau of Investigation was officially given responsibilities for counterintelligence in 1939. After the war began its personnel expanded to more than 15,000. It had a tremendous task in weeding out potentially dangerous aliens, as is indicated by the fact that over 7,000 Germans and 5,000 Japanese were detained or imprisoned after war was declared. The size of the job can be estimated somewhat from a partial list of material collected from the hiding places of enemy agents: 4,626 firearms, including modern automatics and submachine guns; 307,506 rounds of ammunition, 2,340 sticks of dynamite, 2,800 dynamite caps, 3,787 feet of fuse, 1,700 items such as time bombs, teller mines and boobytraps; over 3,000 illegal radio receivers and shortwave transmitters; 4,000 cameras, navigational instruments, naval charts, aeronautical maps, tens of thousands of detailed photographs of coastlines, ports, industrial plants; and thousands of feet of microfilm containing vital records prepared by covert agents. Aided by Naval and Army Intelligence, the Federal Bureau of Investigation was eminently successful in thwarting sabotage efforts. Although the sabotage of American factories was

a part of the Nazi plan, there is no definite evidence that organized German sabotage achieved any major destruction.

One of the most clever counterintelligence feats of the Federal Bureau of Investigation was made possible by a German-born American citizen named Wilhelm Sebold, who was employed as an engineer by the Consolidated Aircraft Co. In 1939 Sebold made a trip to Germany to visit his parents and relatives. While there he was detained by the Gestapo and "persuaded" to become an undercover agent in the United States, with his family held as hostages in Germany. After training in espionage and radio transmission at a Nazi spy school, he was permitted to return to America with instructions to gather detailed statistics on aircraft and poison-gas production. He had been able to advise the FBI of his predicament through the American consul in Germany. Upon his return, Sebold was established by the FBI at Centerport, Long Island, where the most modern shortwave transmitter equipment was made available for his use. For a period of 16 months both fake and genuine information was transmitted to the unsuspecting Germans. By means of Sebold and his shortwave transmitters, the Nazis were thoroughly deceived as to the number of aircraft available to the British for the Battle of Britain and the FBI was able to round up over 30 Nazi agents in the United States and to gain information about others located in Cuba, Brazil, Argentina, and Chile.

The Office of Strategic Services

The establishment of the Office of Strategic Services in 1941 under Maj. Gen. William J. Donovan was an unprecedented act on the part of the United States Government. Its early functions included research and analysis of military, political, and economic information as it affected the security of the country. After Pearl Harbor it was placed under the Joint Chiefs of Staff. Its mission was twofold: to act in support of the Army and Navy in the collection and analysis of strategic information; and to be responsible for the planning and operating of special services. These special services involved covert operations which would not normally be carried on by the armed forces. Personnel were selected for this work only

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after the most intensive screening and psychological testing for mental aptitude and emotional stability. Their training in subversive warfare was rigorous, extensive, and carried on under conditions of the greatest secrecy. Altogether, during the war, thousands of OSS operators made their way into enemy countries to engage in black warfare, a term applied to the often unrecorded yet decisive struggle between spies and counterspies. Their weapons were bribery, treachery, and subversion. Although inexperience resulted in some mistakes, the agents of the OSS were able to achieve considerable success and to measure up favorably to the professional agents of the European powers.

Early success marked the efforts of the OSS agents who helped to pave the way for the invasion of North Africa. A total of 15 men were in North Africa for almost a year before the actual invasion, operating 5 secret radio stations, transmitting vital information which facilitated the movement of troops ashore, and arranging the contacts between representatives of the Allies and friendly elements in that area. The Jedburgh Mission, developed in 1943 by the OSS and its British opposite number, proved most successful in integrating the activities of friendly European underground resistance groups with the overall plans of the Allied Command. The program of this mission was to parachute scores of three-men teams into France, Belgium, and Holland on D-day ahead of advancing Allied armies, to provide resistance groups with military supplies, and to lead them in coordinated guerrilla activities designed to create confusion and havoc behind the German lines. In commenting on the success of the Jedburgh Mission, General Eisenhower said: "In no previous war, and in no other theater of this war, have resistance forces been so closely harnessed to the main military effort."

OSS agents encouraged the labor resistance movement in the occupied countries of Europe, while in Germany itself 80 separate contacts were established and workers were organized even in the factories of the Ruhr. When Allied troops reached the Rhine German bargemen were available to help them cross the river. In the Balkan countries the OSS helped to set up successful escape and evasion operations. Shortly after the

surrender of Rumania a total of 1,050 airmen were rescued from prison camps around Bucharest. The extraordinary heroism and bravery of one OSS agent, Corp. Frederic A. Mayer, resulted in the declaration of Innsbruck, Austria, as an open city and its capture by American troops without a fight. In Burma, OSS personnel helped to organize a guerrilla warfare campaign against the Japanese. The intelligence they gathered provided the basis for almost all of the combat missions flown in that area by the 19th Air Force. In 2½ years of operations, the Kachin guerrilla forces in Burma killed over 5,000 Japanese troops, disrupted their lines of communications, and spear-headed the advances of the Allies under the command of Gen. Stillwell.

Further American Expansion

In addition to the establishment of new intelligence agencies, there was a tremendous expansion of the older military intelligence organizations. For example, at the peak of its wartime effort the Office of Naval Intelligence had a sizable number of officers, enlisted men, and civilian personnel in the United States and scattered throughout the world. After the Battle of Midway, naval commanders came to appreciate more fully the value of Intelligence officers attached to their staffs for operational purposes. Accordingly, the demand quickly exceeded the supply available. A more detailed discussion of the development of naval operational intelligence will be found in chapter 13. However, it should be noted here that intelligence was recognized as an essential function of the staffs of the operating forces afloat.

The surface naval forces themselves were often valuable sources of information. For example, in June 1944 the aircraft carrier, *Guadalcanal*, captured a German submarine undamaged off Cape Blanco, French West Africa, and obtained five German acoustic torpedoes, submarine code books and the key to their changes, and every chart, publication, and general order that an operating German submarine carried. These items were, of course, of great value to Intelligence.

One of the greatest contributions of the United States to the general development of intelligence was in the field of amphibious warfare, where the closest coordination of many types of intelligence

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activities was required to provide adequate knowledge upon which to base the successful operation of a complex military force transported over water with the objective of establishing itself on an enemy-held shore against opposition. The mere fact that such an operation involved Army, Navy, and Air Forces required the greatest ingenuity and diligence on the part of Intelligence to coordinate and to consolidate all the diversified knowledge into a package which was comprehensible, usable, and effective.

The successes of United States Intelligence in World War II were particularly notable because they were achieved primarily by personnel drawn from the civilian population: business and professional men and women with an infinite variety of vocations. At the outset urgent personnel requirements permitted only cursory initial training; it had to be done on the job. Therefore mistakes were made, not through lack of industry and devotion, but because of inexperience. In the winter of 1944, for example, Intelligence failed to interpret correctly the movements of von Rundstedt's troops on the western front, and the Germans broke through the Allied defenses in the Battle of the Bulge to inflict heavy losses of men and materiel.

Despite its failures and frustrations, Intelligence gained recognition from military and political leaders in the United States to a degree never before attained.

The Contribution of Chinese Intelligence

At the beginning of war in the Pacific, United States Navy planners recognized the importance of cooperation from the Nationalist Government of China for ultimate victory over Japan. In March 1942 Comdr. Milton E. Miles, now Rear Admiral, left for Chungking to solicit the assistance of Generalissimo Chiang Kai-Shek in obtaining information regarding weather and other matters of vital intelligence value to the United States Pacific Fleet. The result of Miles' mission was the formation of the Sino-American Cooperative Organization (SACO), of which he was Deputy Director.

The Director of SACO was Lt. Gen. Tai Li, Chief of the Bureau of Investigation and Statistics (BIS) of the National Military Council of

China, an intimate friend and adviser of the Generalissimo. Tai Li, known for many years as a mystery man of Asia, had tremendous power and a reputation which inspired more fear and hatred than admiration. As early as 1926 he had associated himself with Chiang when the latter took command of the Nationalist Armies at Canton. During the march into North China Tai Li acted as an advance agent, collecting information about popular sentiment, military and political developments, and advantageous routes of approach. The intelligence he produced was an important factor in the successive victories which led to the unification of China under the Nationalist Government. When Chiang was captured by the Communists, Tai Li aided in his rescue. In 1937, as commander of the loyal patriotic army, Tai Li held Shanghai for 3 months in the face of overwhelmingly superior Japanese forces. He had almost unlimited energy and stamina and acted with a directness that was more western than Oriental. Because he had escaped death so often he was considered invulnerable, and his avoidance of all personal publicity added to the aura of mystery which surrounded him.

Tai Li organized China's secret police, the BIS, in 1932, and directed its activities until his death in 1946. During this period he established a complex network of covert agents not only throughout China but also in Indo-China, Burma, India, Bali, Borneo, Formosa, and the Philippines. He controlled the uniformed police in Free and Occupied China, as well as the Chinese puppets of the Japanese. Smuggling and anti-smuggling activities came under his jurisdiction. He was Director of the Bureau of Communications and Transportation and Head of the Office of Freight Transportation Control. Thus he wore many different hats which gave him a power not only far-reaching but even paradoxical.

A major function of the BIS was espionage and counterespionage directed against Japanese spies and Chinese Communists. Some of its agents were high ranking officers, well educated and well trained. Others were peasants, recruited from Chinese families which had suffered from Japanese mistreatment. Representatives were located in the smallest villages and largest cities of China. The BIS formed the nucleus of an effective guer-

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rilla army aimed at driving the Japanese out of China and combatting subversive elements.

As the Director of SACO, Tai Li contributed to it the full support of the Chinese Intelligence Organization, which made possible the activities of almost 3,000 Americans (Navy, Army, Marine Corps, and Coast Guard) assigned to SACO, known as Naval Group, China. Their responsibilities included weather reporting, coastwatching, guerrilla training, and combat operations. Their activities were made effective by the establishment of a radio communications network. Weather data supplied by SACO was of significant value to the first air attacks on the Japanese home islands and to the attacks on Iwo Jima and Okinawa. Information provided by SACO coastwatchers on Japanese naval and merchant shipping was the basis for the successful sweep of the South China Sea and its ports in January 1945 by the United States Fleet. SACO also made possible the sensational destruction of Japanese ships by the United States submarine *Barb*, as well as the sinking of thousands of tons of Japanese shipping by other American submarines.

Tai Li and his organization made a significant contribution to the successful prosecution of the Pacific war. His untimely death shortly after the war was a serious blow not only to Chinese Intelligence but to the Nationalist Government itself.

The Expansion of Soviet Intelligence

Occupied as they were with military and political developments in western Europe prior to the outbreak of the war, the leaders of Soviet Intelligence in no way neglected the situation in the Far East. The clever and adroit activities of their spy ring in China and Japan during the period from 1937 to 1941 give some indication of Soviet operating techniques. The principal figure was Dr. Richard Sorge, a German national who was sent as a covert agent by German Intelligence to the Far East in 1933 posing as a foreign newspaper correspondent. Among his close friends and associates were the German Ambassador to Tokyo and Ozaki Hozumi, a Japanese newspaper man prominent in government circles and a friend of various members of the Imperial Cabinet.

Together, Sorge and Hozumi cultivated a num-

ber of important sources of information, including the German, British, American, and French Embassies, the Dutch Legation, the Japanese War Ministry, and the Japanese cabinet itself. From them they gathered invaluable data including estimates and opinions at the highest official levels, which they evaluated and forwarded not to Berlin but to Moscow by means of radio, by courier through Shanghai, or through the Soviet Embassy in Tokyo. The significance of their efforts is revealed by some of the reports transmitted to the Kremlin. In 1937, when the Japanese attacked China, Sorge reported that there would be no attack against the U. S. S. R. in Siberia. In May 1941, Moscow was warned that the Germans would attack the U. S. S. R. along the entire western frontier on 20 June with a force of from 170 to 190 divisions, the major objective being Moscow. The actual attack came on 22 June. In October 1941, Sorge forwarded his well-documented conclusion that the Japanese would attack to the south in Asia and that there was no serious danger of any attack along the Siberian frontier. On the basis of this information the Soviets were able to transfer large units of their forces in eastern Siberia to the western front to strengthen their defenses against the Nazi invasion. It is somewhat ironic that Sorge's activities were revealed by a Japanese Communist.

A tendency of the Soviet leaders to permit the reports of their Communist friends in foreign countries to override the reports of other units in their intelligence system is shown by their initial reaction to indications of Hitler's decision to attack the U. S. S. R. The Communists inside Germany are believed to have reported that the Germans would refuse to march into the Soviet Union. When the attack actually came, the Soviets were taken by surprise.

As the war progressed, the Soviets were able to take full advantage of association with their wartime partners in the expansion and extension of their intelligence activities. In the United States since 1924 there had been an organization known as Amtorg, created for the purpose of purchasing all kinds of material for the Soviet Union. During the war the activities of this organization were intensified, together with those of the Soviet Purchasing Commission which worked closely with

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Amtorg. In addition to the procurement of material, the collection of detailed information concerning American industry was stepped up. Factory techniques, production statistics and labor relations were all matters of great interest, in addition to any fact which might have future intelligence value. As one example, all of the American patents concerned with carbon compounds were purchased—a total of about 30,000 in this field alone. By 1946 a comprehensive catalogue had been compiled of every mill, factory, refinery, and engineering plant in the United States. The Four Continent Book Corporation in New York City was developed as an agency for the purchase and transmittal of American technical publications, trade papers, and patents. In addition, it handled Communist propaganda literature in English and Spanish, forwarding the latter to various Latin American countries.

By 1944 Soviet intelligence and propaganda activities were expanded in Latin American countries through Soviet diplomatic representatives. In Mexico an extensive organization was developed for the purpose of destroying American influence first in Mexico and later in other countries of South America. As a part of this process, the Soviets aimed at the elimination of American business interests and the eventual domination of the economies of these countries. Various cultural organizations were fostered, such as the Russian-Mexican Clubs, to serve as propaganda media and sources of information.

In Europe, during the war, a new counterintelligence agency was created. It was known as "Smersh"—from the Russian words: "death to spies." It seems to have been organized originally in connection with the administration of the Soviet occupied areas of Europe, and was concerned with disaffection among Soviet troops and anticommunism in any form. By painstaking processes it attempted to liquidate all individuals who were not proCommunist, including those active in any democratic-type parties, throughout Poland, Czechoslovakia, Hungary, Rumania, and the Carpatho-Ukraine. Its carefully selected personnel, intensely loyal to the Soviet State, showed no mercy or compassion in their work.

While positive information is not available, "Smersh" appears to have been organized into five

major departments: administration, operations, investigations, prosecution, and personnel. With central headquarters in Moscow, there were subdivisions established for each military district in Russia, as well as in Europe. Agents were attached to all units of the Soviet Army, and networks of spies and informers were set up in the occupied countries, to make particular note of trends in political thought. The investigations department developed the science of interrogation to a high degree of perfection, while the prosecution department utilized three men courts to dispose of those found guilty.

Prior to World War II many improvements had been made in the functional organization of the Soviet military staff. One of these was an increased emphasis on intelligence, notable because this function was weak in the staff organizations of both the Tzarist and early Soviet armies. Revised military doctrine now included a reconnaissance, or intelligence, section at the division level, headed by a chief of section. He was responsible for the preparation of the reconnaissance plan, including air reconnaissance; the assignment of missions to subordinate agencies; the maintenance of the enemy situation map; the collection and analysis of information; keeping the commander and chief of staff informed of all intelligence information; and the dissemination of information to higher, coordinate, and subordinate units. During the war the intelligence organizations of the Army and the Navy apparently functioned separately; however, by 1946, there was some evidence that they had been combined.

The pattern of Soviet Intelligence operations which seemed to emerge during the war period was that of comprehensive, overlapping informer networks within all countries under Soviet rule and of burrowing, multiplying systems of sympathizers and agents within foreign countries of exploitable interest. The extensiveness of its operations abroad was to be clearly demonstrated in the postwar period.

THE POSTWAR PERIOD

Great enthusiasm throughout most of the world greeted the unconditional surrender of Germany and Japan, the inauguration of the United Nations Organization, and prospects for world peace.

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Amidst the glow of military victories the wartime Allies frequently met to chart a new world of freedom and prosperity. But many boldly projected plans failed to materialize, diametrically opposed points of view were bared, and even peace treaties were delayed interminably by disagreements or failed completely of final approval by all concerned, as in the cases of Germany, Austria, and Japan. Two contrary concepts of world relationships became more clearly defined in the opposing policies of the United States and the U. S. S. R. Gradually the peoples of the western world, especially in the United States, became aware of a new threat to their political and social institutions and their way of life.

The aggressive ideology and world power objectives of the Soviet Government found expression in the absorption of the countries of Eastern Europe, a closely knit alliance with Communist China, and the encouragement of Communist organizations throughout the rest of the world. In an effort to counter these activities, the United States assumed world leadership to aid in reestablishing the economic stability of those countries ravaged by the war but as yet free of Communist domination. Economic stability was considered to be fundamental to political and military stability, and through the improvement of standards of living the United States sought to destroy the conditions of poverty upon which Soviet propaganda most effectively feeds. The Truman Doctrine of 1947 brought economic and military assistance to Greece and Turkey threatened by Soviet penetration. The European Recovery Program of 1948, popularly known as the Marshall Plan, had as its objective the restoration of the economic productivity of Europe and the healthy employment of all its peoples. This ambitious program was gradually extended in a lesser degree to other parts of the world. In 1951 the United States frankly embarked on a Mutual Security Program which tied together economic assistance and military cooperation.

The outbreak of the war in Korea in June 1950 brought into clearer focus the grim realities of the so-called "cold war," a term descriptive of various forms of the conflict between Communist and non-Communist countries which had been underway for a number of years but which became

more apparent after World War II. In the light of postwar experience, some earlier events assumed even greater significance than they did at the time. In 1943, for example, a group of young physicists working in the radiation laboratory of the University of California turned over to a Communist agent technical data for transmittal to a Soviet Vice-Consul. In 1944 Soviet representatives in South and Central America were ordered back to Moscow for retraining. By that time the military defeat of Germany was assured, so that Soviet emphasis could again be directed toward bringing about the political and economic collapse of the non-Communist countries of the west.

To achieve this ultimate objective, the Soviet Government has employed, initially at least, methods other than the force of arms. Penetration and subversion, propaganda and detailed organization have proved to be highly effective in various countries. The use of nationals as agents within their own countries has presented a most difficult problem for the counterintelligence agencies of those countries. The Soviets have implemented a plan to collect great quantities of information about non-Communist countries, obviously in order to determine strengths and weaknesses. During this "cold war" Intelligence has assumed even greater importance than during World War II. The scope and methods of Soviet Intelligence in the postwar period have been indicated by the disclosure of some of its activities in various parts of the world.

Soviet Intelligence in Canada

In September 1945 Igor Gouzenko, a cipher clerk in the Soviet Embassy at Ottawa, determined to expose the activities of Soviet agents and sympathizers in Canada. The documented information which he was able to furnish to the Royal Commission finally appointed to conduct a full investigation was a startling revelation of the extensiveness of the Soviet intelligence system in Canada, the type of individuals who were involved, and the nature of the information which was being transmitted to Moscow. The importance attached by the Soviet Embassy to Gouzenko's testimony and substantiating documents was indicated by the strenuous efforts made to regain custody of both.

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The evidence uncovered by the Royal Commission definitely revealed the existence in Canada of a fifth column, organized and directed by Soviet agents. Within this fifth column were a number of spy rings, possibly as many as five, of which detailed information was available only on the one headed by Col. Nicolai Zabotin, Soviet Military Attaché in Ottawa. Additional rings appeared to be operated by the MVD, the Naval Attaché, the commercial and political representatives, and the Embassy itself. Each of these rings was completely independent of the others, using separate codes and agents, and was apparently organized rather simply into various cells composed of agents working on similar tasks. Only one agent in each cell had contact with a Soviet representative and each made use of a "cover" name. The Royal Commission concluded that the Soviet organization in Canada was the product of careful and detailed preparation by trained men. Of significance were the indications that the Canadian organizations were associated with similar ones in other countries, notably Great Britain and the United States.

In Zabotin's ring only two individuals were Russian-born, and these had become naturalized Canadian citizens: Sam Carr, the Organizing Secretary of the Canadian Communist Party, and Fred Rose, a member of Parliament. The remainder were Canadian or British by birth and were motivated by Communist sympathies. Money was apparently of only incidental concern. Scientists and civil servants were especially cultivated by Zabotin who approached them through local Communists, fellow travellers, and sympathizers attending study-groups and special lectures. The care with which prospective agents were selected is indicated by the positions held by those found guilty of turning over classified information to Soviet representatives: a senior worker with the National Research Council; two additional members of this Council who supplied information regarding explosives, atomic energy, and aircraft development; an employee in the Office of the High Commissioner of the United Kingdom; an employee in the Department of Munitions and Supply; and a staff member of the cipher division of the Canadian Department of External Affairs. The most prominent individual involved

was Dr. Allan Nunn May, a nuclear scientist employed in research for the Canadian Atomic Energy project at Montreal. The investigation disclosed that he had been a Communist before coming to Canada. The Royal Commission was particularly astounded by the success of the Soviets in enlisting Canadians in positions of responsibility and trust who were willing to betray their country.

Since the activities of Soviet Intelligence had been going on for some years, it was difficult to determine the amount of information which the Soviets had managed to accumulate. The evidence indicated, however, that a considerable quantity of classified information had been transmitted with regularity from various Government departments and agencies. Specific information included samples of uranium ore; data about atomic plants and processes; details of Asdic, a submarine detection device; formula of new explosives and blueprints of fuzes, such as the V. T. fuze; economic reports; and political reports, including diplomatic messages exchanged with Great Britain and the United States. Of particular significance was the fact that much of the information sought was technical and concerned the postwar defenses of Canada, Great Britain, and the United States.

Two interesting Soviet Intelligence procedures were revealed by Gouzenko. The first was Zabotin's plan to arrange for the entry into Canada of additional agents under the guise of personnel attached to a proposed Soviet Trade Mission. The second was the use of forged passports to permit the entry of agents into other countries from Canada.

Soviet Intelligence in the United States

The Report of the Canadian Royal Commission, published in June 1946, excited worldwide attention and particularly, attention was given to it in the United States where the evidence indicated that similar Soviet organizations were operating. Several Congressional committees found new sources of information regarding un-American activities and accumulated volumes of data. These committees were aided materially by a few repentant American Communists who, like Gouzenko, found themselves completely disillusioned by the wide gulf between Communist promises and

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practices. Louis F. Budenz, editor of the official newspaper of the American Communist Party, the *Daily Worker*, was one such person. His testimony, given in November 1946, disclosed the close relationship between American and Soviet Communists. Further, it gave clues to the activities of Soviet agents operating in the United States.

Gerhart Eisler, for example, was pointed out as the representative of International Communism in the United States and, as such, the boss of all American Communists. His true position could not be determined, but his status as a representative was substantiated. Eisler, a professional revolutionist, was active in the United States during the 1930's, speaking before many groups, helping to organize Communists and Communist sympathizers, and identifying those who might be encouraged to aid the Communist cause. During the war years he may well have headed a Soviet spy network. In the late 1940's he evidently concentrated on artists, writers, and intellectuals. He was reported to have said that New York City would become the center of International Communism outside of Russia. Because of the disclosures before the House Un-American Activities Committee in early 1947, Eisler was no longer useful to the Soviet effort in this country. He escaped to Europe and later turned up as an official for the East German Government, operating under direct Soviet control.

In July 1948 Elizabeth Bentley testified on her activities as a courier for a Soviet espionage system in the United States during the war. She collected information from various Government employees in Washington, and turned it over to Soviet representatives in New York for transmittal to Moscow. Her contacts in Washington were individuals employed by such Federal Departments as State, Treasury, Army, the War Production Board, and the Office of Strategic Services. Among those she incriminated was William W. Remington who was first employed by the War Production Board and later by the Department of Commerce. In both these positions he had access to secret information, and in Commerce he headed a committee responsible for the clearance of materials for export to the Soviet Union. Unlike Gouzenko in Canada, Bentley was unable to document her testimony.

During the summer of 1948 Whittaker Chambers, reformed American Communist and a senior editor of *Time* magazine, appeared before the House Un-American Activities Committee in Washington. He described in detail his activities as a Communist from 1924 until 1938, when, disillusioned and embittered, he renounced communism and determined to expose the Soviet activities of which he had been a part. Of primary interest was his work as an underground courier for a Communist cell, from 1934 to 1938, collecting classified information in Washington and carrying it to a Soviet agent named Colonel Bykoff in New York City. The purpose of this cell was the collection of military and political information from the State Department. The sensational aspect of Chambers' testimony was his ability to produce documentary evidence which included copies and photographs of highly important British naval papers and extremely confidential reports from China, Yugoslavia, and Poland. The keys to certain secret American diplomatic codes were also involved. These substantiating documents proved beyond question that in 1938 some individual in the State Department had made important classified information available to him. That individual, according to Chambers, was Alger Hiss, a brilliant young man in the State Department, a prominent figure in the creation of the United Nations, and president of the Carnegie Endowment for International Peace. Volumes of evidence were accumulated in the succeeding sensational Hiss-Chambers legal actions which finally resulted in the conviction of Alger Hiss for perjury and a sentence of 5 years imprisonment.

Additional cases involving suspected Soviet espionage and Communist activities continued to be brought to light in the United States. In the spring of 1949 the Federal Bureau of Investigation released evidence against Judith Coplon, first employed by the Justice Department in its economic warfare section and later assigned to its internal security section as a political analyst. She was accused on two counts: taking unlawful possession of Government documents and spying for a foreign power. Her contact was a Soviet engineer employed by the United Nations secretariat in New York. Her sensationalized trial on the first count in Washington resulted in conviction.

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tion, although subsequent trials on the second count in New York City failed of conviction because of certain legal technicalities.

During 1949 and 1950, while the Justice Department was prosecuting the leaders of the American Communist Party for conspiracy against the United States Government, the FBI was accumulating evidence against other individuals suspected of treason in connection with the atomic bomb and military uses of atomic energy. In May 1950 Harry Gold confessed that, in 1944 and 1945, he had acted as a courier in relaying atomic information to a Soviet agent for transmission to the U. S. S. R. His motives appeared to be basically ideological. His confession involved Alfred Dean Slack, a chemist, and David Greenglass, a New York machinist. The former was charged with revealing details of the manufacture of RDX, a secret high explosive developed during the war, and supplying a sample. The latter confessed to turning over sketches and descriptions of the atomic bomb while he was employed at Los Alamos, N. Mex., working on the top secret Manhattan project. These men in turn incriminated other individuals including Ethel and Julius Rosenberg and Martin Sobell. These were accused of complicity in espionage work for Soviet Intelligence, transmitting information concerning the atomic bomb.

The evidence presented during these trials was startling. It became apparent that the Soviet Union had gained considerable information about the Manhattan project and the work of some of its scientists during the latter months of 1944; further, that the schedule for the explosion of the first atomic bomb at Alamogordo was known at least a month in advance. Months before the first bomb was dropped on Hiroshima the Soviets had learned the principles of its construction. Rosenberg stated that he had procured information pertaining to the use of atomic energy for aircraft.

The series of shocking disclosures in the postwar period clearly indicated that Soviet Intelligence had developed intricate systems of covert agents in the United States for the purpose of channeling vital information of a political, military and scientific nature to Moscow through both official and unofficial representatives.

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Soviet Intelligence in Great Britain

The Canadian Spy Case and the disclosures in the United States had eventual repercussions in Great Britain. Tipped off by the FBI, Scotland Yard initiated investigations which resulted in 1950 in the apprehension of Dr. Emil Julius Klaus Fuchs, head of the Ministry of Supply's Theoretical Physics Division and the deputy chief scientific officer at Harwell, England's principal atomic installation. Fuchs was accused of releasing American atomic secrets to Soviet representatives in 1945 and British secrets in 1947. His confession left no doubt as to his guilt. While the amount of information he had given was not publicly announced for security reasons, it was apparent that Fuchs had detailed knowledge of the construction of atomic bombs and, further, that he was conversant with the initial studies for the hydrogen bomb. The tremendous advantages accruing to the Soviets from this information are difficult to estimate, although it is obvious that their atomic program was greatly advanced. At the same time irreparable harm was done to the national security of both Great Britain and the United States.

The investigations of Fuchs revealed that he had been a Communist for many years and that his motivation, like so many others already mentioned, was ideological. He was the scientist from whom Harry Gold had received his information, and his confession was of material assistance in the prosecution of Gold, Greenglass, and others.

Soviet Intelligence in Sweden

In September 1951 the long suspected activities of Soviet espionage in Sweden were dramatically exposed. A 42-year-old petty officer in the Royal Swedish Navy, Ernst Hilding Andersson, was accused of betraying military secrets to a foreign power, found guilty of treason, and sentenced to life imprisonment. From 1949 to 1951 he had prepared and transmitted reports and maps of the defenses of naval bases at Stockholm and Karlskrona, and of an air base, naval station, and the Boden fortress in northern Sweden. His three contact men were: a former Soviet Embassy secretary, a former Tass news-agency correspondent, and an assistant to the Soviet Naval Attaché. While small money payments were made for in-

formation delivered, Andersson's motivation was to aid communism. Investigation showed that he had become a Communist in 1928, but that his first assignment in espionage was not made until 1949.

According to the Swedish Chief of Staff, incalculable damage to Sweden's security had been caused by Andersson's activities. Even more harmful, perhaps, were the similar efforts of Fritiof Enborn, a Swedish journalist, discovered in February 1952. Sweden faced a new threat to her security and national defense system.

Soviet Activities in South America

In Mexico the Communist group appeared to fall into three categories: the professional agents, carefully trained in the art of collecting information and spreading Soviet propaganda; the idealists, motivated by the propaganda; and the fellow travelers, inspired by their own liberalism. The Soviet Embassy in Mexico City made use of each category to promote its primary objectives of propaganda, penetration, and the destruction of the economic position of the United States and its favorable pan-American relationships.

The Mexican pattern was apparent in other countries. In Guatemala in 1951 there were charges that the Communists were infiltrating both the government and labor. A primary target was the United Fruit Co. which was harassed by strikes and one-sided labor laws. In Chile the large and active Communist Party encouraged a series of strikes in the copper mines which helped precipitate a copper shortage crisis in the rearmament program of the United States. In Panama the Communists attempted to capitalize on the political unrest in the country.

In the postwar period, there were other positive indications and significant disclosures of Soviet Intelligence activities in various trouble spots of the world. The United States and her Allies found themselves faced with the necessity of combatting diverse problems of major proportions.

The Readjustment of the United States Intelligence Effort

At the end of World War II the demobilization of the Armed Forces was accelerated almost to a point of disintegration, at least from the point of

view of ready effectiveness. The drastic reduction in personnel seriously affected all military activities and especially those of Intelligence. For example, by 1946 the strength of Naval Intelligence had dropped sharply from its wartime peak. Pre-war problems of Intelligence, such as personnel and production, once again developed, though to a lesser degree because of what appeared to be a positive if gradual change in both the popular and official point of view towards Intelligence.

Even before the end of the war, top level planners had become convinced of the need for a permanent well coordinated national Intelligence system. The result was the passage of the National Security Act of 1947 which for the first time in the history of the Nation, outlined the structure of such a system to operate in times of war and peace.

The deterioration of the international political situation created urgent demands upon all intelligence agencies. Moving into Greece to aid in the defense of that country, the United States Army was immediately involved in problems arising from guerrilla warfare and the infiltration of communist groups from the Sovietized Balkan countries. In Western Europe, advance information concerning the trends of Soviet activities was essential to the formulation of any military or foreign policies which would effectively protect the interests of the United States in that area.

Months in advance information was obtained regarding Soviet plans to blockade Berlin. The communist coup in Czechoslovakia was anticipated by 3 months. Evidence was accumulated to show that the Soviet Union was supplying arms and ammunition to Communist groups in France and Italy. In the spring of 1948 events in Europe gave rise to serious misgivings that the Soviet Union might be contemplating offensive military action. Under terrific pressure, the Central Intelligence Agency produced an estimate that such action would not take place within the next 2 months and, in all probability, not within a year.

With the outbreak of war in Korea the Navy, Army, and Air Force were faced with many serious problems, including an acute shortage of Intelligence personnel and data. Drawing substantially upon their reserve organizations, the military services overcame these shortages and

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rapidly increased the production of intelligence for operational purposes. Once again the need for intelligence was clearly demonstrated.

POSTWAR INTELLIGENCE ORGANIZATIONS

The impact of the cold war in the postwar period is shown by the emphasis given to intelligence organizations and activities by both larger and smaller nations of the world.

The United States intelligence system is discussed in detail in chapter 3 of this text, but certain general developments in military intelligence should be mentioned here. Intelligence activities have been expanded in order to provide the intelligence required for strategic planning. Broad programs involving research and special studies of foreign powers have been undertaken. Increasing importance has been placed on personnel training through the encouragement of reserve intelligence units and an emphasis on training schools for both regular and reserve officers. There has been some indication of a trend in the Army and the Navy to encourage officer personnel to specialize in intelligence work. Gen. Omar N. Bradley, Army Chief of Staff, has been quoted as saying: "I am recommending to the General Staff that the Army establish an Intelligence Corps in which personnel can specialize in Intelligence just as artillery men concentrate on guns, and armored corps men on tanks." The training of personnel assigned to attaché posts has been improved. The work of counterintelligence has received more and more attention.

As a newcomer to the field of intelligence, the United States has learned much in a relatively short period of time. Intelligence organizations have improved the quality of their product, and despite "growing-pains" have accomplished a great deal.

The British Intelligence Service

The British intelligence service is composed of several intelligence agencies. Of special importance is the British secret service whose operations and organization are closely guarded secrets. For budgetary purposes it is sponsored in Parliament by the British foreign office. Appropriations for the secret service are usually passed without comment, and if a question is ever raised, the foreign

secretary replies that the matter is a secret of state which, if revealed, would no longer be secret. The British secret service corresponds, in many of its functions, to the United States Central Intelligence Agency.

The war office, the admiralty and the air ministries have separate intelligence agencies which co-operate closely with the British secret service and other agencies. The military intelligence division (MID) is divided into some 20 different departments. In addition to purely military matters, sections of MID deal with the problems of spies at home, in the dominions and British possessions, and in foreign countries. The naval intelligence division is also divided into several departments for specialized work, as is the air intelligence division.

Another organization of the British intelligence service is generally referred to as MI 5. This organization is devoted to counterespionage and security. It has jurisdiction in the British Isles and in the British possessions overseas. Many of its functions are similar to those of the United States Federal Bureau of Investigation. MI 5 cooperates closely with the special branch of Scotland Yard as well as with the British secret service and the military intelligence agencies.

The special branch of Scotland Yard, which may be included as a part of the British intelligence service, is charged with guarding the Royal Family and important British officials and visiting foreign dignitaries. It is also concerned with counterespionage and problems of national security. Some of its functions are similar to those of the United States Secret Service and the United States Federal Bureau of Investigation.

There are several British joint intelligence committees and boards which include representatives from the major British intelligence agencies, military and civilian. These joint committees and boards are subordinate to the British military chiefs of staff, though they contain civilian representation. These committees and boards prepare estimates of all kinds and serve all interested ministries of the British Government.

The French Intelligence System

The principal French intelligence organization is the *Service de Documentation Extérieure et de*

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Contre Espionnage (SDECE). It was established under this name in December 1945 and is a development of intelligence organizations which operated under General de Gaulle from 1940 to 1945.

General de Gaulle set up the *Bureau Central de Renseignements et d'Action* (BCRA) in London in 1940. This was an expansion of the Service de Renseignements (SR), a part of the old Deuxieme Bureau of the French General Staff. After General de Gaulle left London and went to Algiers, he combined the BCRA with an intelligence organization of General Giraud and created a new intelligence organization called the *Direction Generale des Services Speciaux* (DGSS). The DGSS was replaced shortly after the liberation of most of France by an intelligence organization called the *Direction Generale des Etudes et de Recherches* (DGER), out of which SDECE directly evolved.

Historically, the Deuxieme Bureau of the French general staff has been the most important French intelligence organization. In the post World War II organization of French Intelligence, the SDECE appears to have taken over most of the functions of the traditional general staff Deuxieme Bureau, leaving to the Deuxiemes Bureaux of the armed services responsibility mainly for operational military intelligence. The SDECE is subordinate to the French national defense ministry and is divided into two main sections (called by the French, *Offensive* and *Defensive*) which are concerned respectively with strategic intelligence and counterintelligence. The *Surete Nationale*, under the French interior ministry, is also a part of the French Intelligence system. The *Surete* is similar in some respects to the United States Federal Bureau of Investigation and the British Scotland Yard.

The Soviet Intelligence System

Often described as omnipotent and omnipresent, the Soviet intelligence system is in many respects unique in the postwar world. It is a vast, intricate organization with an incredible amount of duplication and involving literally millions of people. With its two-pronged objective of internal security and external espionage, it maintains agents in every village of the U. S. S. R. and agents or potential agents in all countries of the

world where there are Soviet diplomats, trade representatives or Communist Party groups.

Within the U. S. S. R., the intelligence-security system is the cornerstone of the police state, responsible for insuring rigid political and economic controls and rooting out all dissident elements. It can be assumed that the average Soviet citizen is aware of the secret police to the extent that he knows he must remain where he is registered, perform his work satisfactorily, and refrain from any criticism of the government. He must also hope that his relatives and friends will do likewise. Should there be any deviation from the established pattern, he can anticipate severe punishment including death or hard labor in a penal camp. Within the borders of the country, the closest observation is maintained not only over all citizens but also over all visitors.

Abroad, the strength of Soviet Intelligence lies basically in the worldwide organization of the Communist Party. As already indicated, the Soviets have emphasized the use of agents who are citizens of the country in which they are to operate. These prospective collectors of information, recruited by the regular Communist Party organization, are fellow travellers and sympathizers not known as Communists. Either they are already in an exploitable position or possess the necessary qualifications. Sold on the basic doctrines of communism, these individuals transfer their loyalties from their own country to the U. S. S. R. They are given small sums of money for "expenses" and so become subject to blackmail. Each new recruit becomes the member of an independent cell, but only the leader of the cell has a direct Soviet contact. Thus this system is capable of almost indefinite expansion and, of even greater importance, is subject to a minimum risk of exposure. In connection with this recruitment program, Soviet Intelligence has an amazingly complete dossier coverage of individuals all over the world: their appearance, interests, weaknesses, and political inclinations.

The counterintelligence activity of the Soviets is particularly noteworthy. Its defensive effectiveness makes the term "Iron Curtain" most appropriate. No one may cross the borders of the U. S. S. R. without great hazards of detection. All means of communications are rigidly con-

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trolled, and the gathering of any information inside the country by foreign agents is notoriously difficult. The offensive aspects of Soviet counter-intelligence are even more unique and constitute a Russian contribution to modern intelligence. The objective is the dissemination of false information designed to mislead and confuse opponents and prospective victims. Seemingly "anti-Communist" propaganda and individuals are skillfully utilized in a cleverly organized program.

The controls of this tremendous organization were further overhauled and centralized at the top level in 1946. As a result, the major agencies primarily concerned with intelligence activities from 1946 to 1953 were: Military Intelligence, and the Ministry of State Security, or MGB, formerly known as NKGB. During this period the MVD, Ministry of Internal Affairs (the former NKVD), appeared to have lost most of its police and intelligence functions.

Currently, the Military Intelligence organization, known as GRU, is a part of the Soviet general staff. From the military point of view, it is interested in political events and economic conditions abroad and so collects information for intelligence purposes all over the world. It also directs foreign sabotage. It maintains networks of agents, directed both by military attachés and by special agents assigned cover positions in Soviet diplomatic and consular posts.

From 1946 to 1953 MGB had broad responsibilities for political espionage and propaganda abroad and for the control of espionage activities of foreign Communist Parties. Its foreign department, known as INO, maintained an agent in every Soviet diplomatic, consular, and trading mission abroad. KRU, another department, had the objective of countering foreign political espionage in the Soviet Union and the activities of anti-Soviet groups abroad. EKV, the economic department, was organized originally to control foreign economic activity within the U. S. S. R. Later it was composed of two sections: the first exercised political control over the domestic economy by means of secret police; the second directed external economic espionage and encouraged class warfare, industrial crises, and strikes. Two other departments, SPU and DTU, had responsibilities within the U. S. S. R. and were charged, respec-

tively, with purging counterrevolutionary activities and suppressing espionage or sabotage activities directed against transportation. The careful correlation of all foreign intelligence at the top level was accomplished to formulate or to revise Soviet foreign policies.

The personnel of MGB included: border guards and internal troops; specially trained spies and covert agents; highly placed Soviet citizens, who were not only specialists in such fields as economics, foreign trade, education and cultural activities, but also were well-trained in the work of intelligence; unofficial Soviet citizens who were nationals of various satellite governments; and foreign Communist Party members. The Soviet Union has maintained the largest diplomatic corps of any country in the world, and the size of individual missions has been far in excess of normal requirements. For example, in Ottawa the U. S. S. R. has maintained a diplomatic staff of 70, as compared with maximums of 12 to 24 maintained by other countries. In Cairo the Soviet Ambassador has had a staff of more than 300; while the Egyptian Ambassador in Moscow has had fewer than 12. In London the U. S. S. R. has had more than 250 persons representing various agencies; while in Washington it has had approximately 1,100 official representatives. At the same time, in Moscow Great Britain was limited to 32 representatives and the United States to about 175.

The MVD cooperated with the MGB and controlled the administration of the slave labor camps. It had its own troops, politically reliable and ready to crush any armed revolt within the country. Its activities were primarily internal.

However, shortly after the dramatic announcements of Stalin's serious illness and death in March 1953, news releases from Moscow revealed an important administrative reorganization of the Soviet Intelligence System. The MGB and the MVD were combined as the Ministry of Internal Affairs.

There are several possible weaknesses of Soviet Intelligence. The most vital may be that of internal suspicion. In striving for the greatest possible efficiency, Soviet leaders place little trust in their operatives, whom they keep under careful surveillance, including even their diplomatic representatives. Complete thoroughness may, in it-

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self, become a weakness. A second possible weakness, similar to that of the Nazi Germans, is an emphasis on intensive training for their agents which has led to standardized methods and reactions. While there is no way to determine the degree of success of Soviet agents, the fact that some of them have been discovered, especially in the United States, indicates that they are not completely successful.

Since it must answer to only a small group of Communist leaders, Soviet Intelligence has almost absolute power. It acts as the eyes, ears, and punishing arm of the government in authority. Fear is one of its most effective weapons. There are, however, indications of an underground opposition movement, especially in satellite areas, engaged in sabotage and propaganda warfare on a considerable scale.

The organization of Soviet Intelligence is further strengthened by the intelligence agencies of the various satellite countries, including Poland, Hungary, Rumania, and Czechoslovakia. Each of these countries is engaged in intelligence activities which seem to be geared to those of the Soviet Union. The extent of these activities is illustrated by Hungary, for example, which has an organization out of all proportion to its size, interest, and national income.

The Rebirth of German Intelligence

The political and economic conditions in post-war Germany, divided as it has been into eastern and western zones, have led to underground resistance movements with several intelligence organizations, each active in espionage, sabotage, and propaganda. The "Fighters Against Inhumanity" and the "Investigating Committee of Free Jurists in the Soviet Zone" are two such groups directing their activities against the Soviet occupation forces and the Soviet-sponsored Communist Government in East Germany. The "Red Gestapo" is a security service organized by the East German Government to combat the covert activities of the West German groups.

CONCLUSIONS

A review of the development of the intelligence activities and organizations of various countries of the world throughout recorded history points

up certain general principles and significant lessons. First of all, intelligence as activity is a product of war and the fear of war. In one form or another, it has always been an inevitable adjunct of military activity and command. Its development, therefore, has been associated with that of military forces. History has shown that no major military endeavor has been better than the staff responsible for its direction. At the same time, the degree of the success of any major staff effort has often been proportionate to the knowledge, or intelligence, upon which that effort was based.

Intelligence has been used for other purposes as well. Wisely employed, it has given direction and meaning to the foreign policies of nations. Basely subverted, it has supported and maintained the autocratic power and authority of police states.

There are many lessons of importance to be learned from the history of intelligence. Of these there are six which seem to have particular significance. The first is the demonstrated need for continuity of performance. No successful organization can be improvised overnight: years of advance planning and preparation are required. Collection and production are effective only on a longterm basis. This means that intelligence activity must be continuous in times of peace and times of war. The closest possible relationship exists between intelligence operations in peacetime and their effectiveness in wartime. History has demonstrated time and again that adequate peacetime preparations have given a significant offensive advantage when military operations began. Associated with this lesson of history are two others: trained personnel are essential to intelligence organization; and adequate funds must be made available to maintain the personnel and the organization. The lavish outlay of funds for intelligence in times of crisis is not sufficient. Only longterm support, regardless of the apparent requirements of the moment, can assure continued success.

A fourth lesson is the importance of unified direction to coordinate and to concentrate the total intelligence effort of a nation. The failures of German Intelligence in World Wars I and II give particular emphasis to this point.

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Fifth, the effectiveness of intelligence rests upon the speed of its dissemination and the adequacy of the communications systems upon which it must rely.

Finally, intelligence must be used. Its functions must be understood and its value appreciated by potential consumers. Time and again in military and political history failures of intelligence have actually been failures to make use of it.

The development of intelligence has been gradual, almost imperceptible at times, and paced by the historical trends of nations and peoples. It would be difficult to determine with any finality the extent of its influence on historical events. There seems to be evidence, however, that intelligence activity has had a marked effect upon the outcome of specific situations which have influenced significant world events. In the broadest

sense, therefore, the lessons to be learned from a study of the history of intelligence merit the most attentive consideration of those military and political leaders of any nation who bear in large measure responsibility for its security, its well-being, and its destiny.

Since this chapter has dealt with development, there has been an emphasis on intelligence in relation to both military and political history. The illustrations of covert operations may have excited the particular interest of the reader, but the purpose of this chapter has not been to give an exaggerated build-up for intelligence, nor to suggest that it is the answer to all military and political problems. In considering its importance the reader must see it in proper perspective. He must also recognize clearly that covert operations are but one aspect of its total activity.

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CHAPTER 3

UNITED STATES ORGANIZATIONS FOR NATIONAL SECURITY

INTRODUCTION

A study of its historical development has revealed how and why, by the middle of the 20th century, intelligence has become exceedingly important to government and its supporting armed forces in their mutual objective of promoting and maintaining the security and welfare of any nation in its relations with other nations. Foreign policies, to be sound and constructive, must be based on realism and fact. Military policies, as part of foreign policies, are subject to the same requirements. Since foreign and military policies are a product of the world environment interacting with national aspirations and objectives, they are affected necessarily by the increasing complexities of international relations.

In recent years as a part of its foreign policy, the United States has assumed additional responsibilities under various treaty and pact arrangements with other nations on a world, regional, or bilateral basis. Thus special organizations have been required to carry out these new international tasks and new missions and responsibilities have been created for the armed forces. For these reasons, the United States has found it imperative to reorganize and expand the agencies responsible for the formulation and direction of plans and policies relating to the national security. The organizations which produce the intelligence required by these agencies have likewise been subjected to frequent change in order to carry out the tasks of new responsibilities.

This chapter will review the organization of the various United States agencies which have responsibilities in connection with foreign policy and will show how Intelligence is related to them. Two concepts must be kept in mind: first, that Intelligence is a service organization, not an end in itself; and second, that Intelligence is a unity and is not the exclusive province of any one agency. By tracing the interrelationships of these agencies and their Intelligence subdivisions, these

concepts should become clear and the intelligence officer should better understand his own position and functions. By reason of the frequency of joint operations, he must also be informed of the detailed organization of the army and air force.

NATIONAL SECURITY ORGANIZATION

The National Security Act of 1947, and the legislation supplementing or amending it in 1949, produced fundamental and far-reaching changes in the organization and relationships of the armed forces of the United States.

The *purpose* of the Act was stated as being:

To promote the national security by providing for a Secretary of Defense; for a Department of Defense, for a Department of the Army, a Department of the Navy, and a Department of the Air Force; and for the coordination of the activities of the Department of Defense with other departments and agencies of the Government concerned with the national security.

The *policy* expressed in the Act and its subsequent amendments was stated by the Congress as follows:

In enacting this legislation, it is the intent of Congress to provide a comprehensive program for the future security of the United States:

to provide for the establishment on integrated policies and procedures for the departments, agencies, and functions of the government relating to the national security;

to provide three military departments, separately administered, for the operation and administration of the Army, the Navy (including naval aviation and the United States Marine Corps), and the Air Force, with their assigned combat and service components;

to provide for their authoritative coordination and unified direction under civilian control of the Secretary of Defense, but not to merge them;

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to provide for the effective strategic direction of the armed forces and for their operation under unified control and for their integration into an efficient team of land, naval and air forces;

but not to establish a single Chief of Staff over the Armed Forces nor an Armed Forces general staff (but this is not to be interpreted as applying to the Joint Chiefs of Staff or Joint Staff).

Major Features of the National Security Legislation

The major features of the Act were the establishment of: (a) the National Security Council, the National Security Resources Board, and the Central Intelligence Agency; (b) a Department and a Secretary of Defense to provide unified control over the Armed Forces; (c) the Department of the Air Force as a separate command under the Department of Defense; (d) the following agencies under the Department of Defense (in addition to the three military departments): the Joint Chiefs of Staff and the Joint Staff, the Munitions Board, the Research and Development Board, and the Armed Forces Policy Council.

The 1949 Amendments to the Act increased the authority previously granted to the Secretary of Defense to exercise further centralized control of the military departments, and created the positions of Deputy and Assistant Secretaries of Defense, and the position of Chairman, Joint Chiefs of Staff.

The Air Force Organization Act of 1951 further clarified the organization and command structure of the Department of the Air Force, the Chief of Staff and the Air Staff, and the United States Air Force.

By mid-1953, various Presidential Reorganization plans had resulted in a number of changes in some of the agencies and offices created by the National Security Act of 1947. It also resulted in the redistribution of some functions originally assigned them. For example; Reorganization Plan No. 3 of 1953 abolished the National Security Resources Board and transferred its responsibilities to the Office of Defense Mobilization. Within the Department of Defense there was a reorganization of some of its subordinate agencies and offices as the result of Presidential Reorganization Plan No. 6 of 1953.

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Continuing efforts are made within the executive branch of the Government to increase efficiency of operations and to insure the greatest coordination of its widely varied activities, particularly as related to problems of national security.

The National Security Council (NSC)

The NSC is composed of officials specifically designated by statute. Among these are: the President of the United States; the Vice President; the Secretary of State; the Secretary of Defense; the Director of Defense Mobilization; and the Secretary of the Treasury. The President acts as chairman.

In addition to the foregoing officials, the President is given authority to appoint (subject to the advice and consent of the Senate) as additional members of the Council other administrative government officials, including the Secretaries and Under Secretaries of other Executive Departments and of the Military Departments.

The law provides that it shall have a staff headed by a civilian executive secretary.

The function of the NSC is stated as follows:

to advise the President with respect to the integration of domestic, foreign and military policies relating to the national security so as to enable the military services and the other departments and agencies of the Government to cooperate more effectively in matters involving the national security.

In addition to performing such other functions as the President may direct, for the purpose of more effectively coordinating the policies and functions of the departments and agencies of the Government relating to the national security, it shall, subject to the direction of the President, be the duty of the Council—

(1) to assess and appraise the objectives, commitments, and risks of the United States in relation to our actual and potential military power, in the interest of national security, for the purpose of making recommendations to the President in connection therewith; and

(2) to consider policies on matters of common interest to the departments and agencies of the Government concerned with the national security, and to make recommendations to the President in connection therewith.

The NSC is concerned with the ultimate correlation of the Government's best military and diplo-

matic thought on problems relating to the position of the United States in the world society of nations, and has the additional responsibility of making sure that our commitments do not exceed our abilities to carry them out. The Secretary of State and his Department continue to exercise leadership in charting our foreign policy, but other branches of Government, including the military, have a chance to state their views before decisions are made.

The NSC does not seek publicity but works quietly and secretly. When the President or one of the members of the NSC asks for advice on a particular situation, the Director of the Central Intelligence Agency has a summary of the situation prepared, which includes an appraisal of world reactions to it. A working group made up of representatives from each department recommends a course of action which may be acted upon with dispatch by the NSC itself. Disagreements not resolved are settled by Presidential decision. The long range purpose of the NSC is to provide a thoughtfully developed and clearly stated foreign policy in balance with military strength so as to give continuity to policies even as administrations change. The NSC also specifically guides the activities of the Central Intelligence Agency.

THE DEPARTMENT OF DEFENSE

The National Security Act of 1947 created the "National Military Establishment" under the Secretary of Defense; the 1949 amendments changed the organizational title to the "Department of Defense." The latter statute also made the Department of Defense one of the "executive" departments of the Government equal to the other departments headed by cabinet officers; the Departments of the Army, the Navy, and the Air Force became "military" rather than "executive" departments, the Secretaries no longer being cabinet members.

The current organization of the Department of Defense is indicated in figure 1.

Office of the Secretary of Defense

The Secretary of Defense is the principal assistant to the President in all matters relating to the Department of Defense. He is normally a

civilian and cannot have been a regular commissioned officer within 10 years of appointment to the Secretary's post. A special congressional act waived this restriction in the case of General of the Army George C. Marshall.

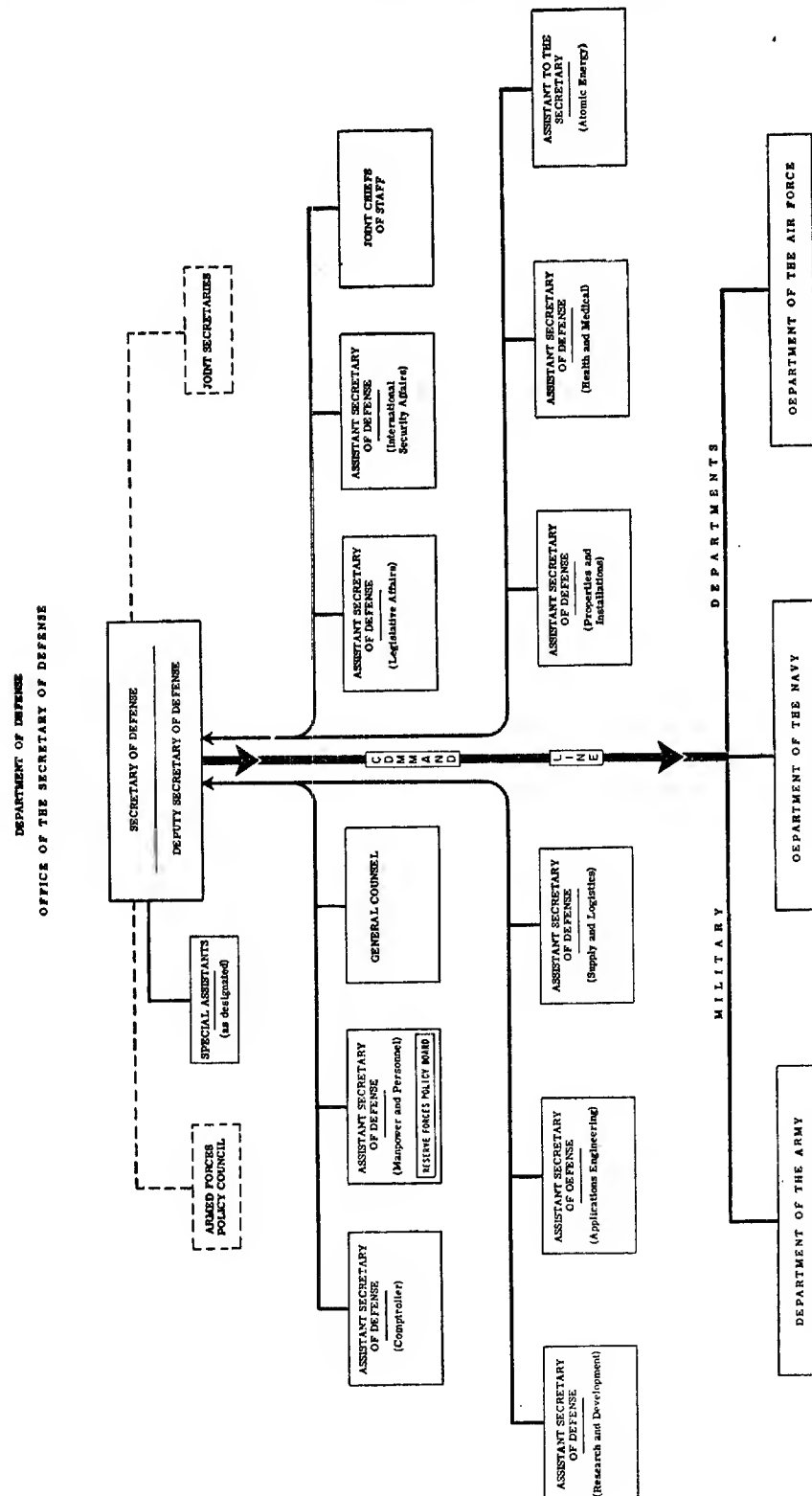
Congress has restricted the Secretary's powers to change through administrative acts the functions of any of the military services that have been fixed by legislation. Further, each of the three military departments is separately administered, and their respective Secretaries as well as members of the Joint Chiefs of Staff have the right, after informing the Secretary of Defense, to express freely their recommendations on defense needs to the Congress.

The Joint Chiefs of Staff (JCS) and the Joint Staff

Although a body bearing the title Joint Chiefs of Staff has operated since 1942, the official permanent organization was not established until 1947. At that time the position of Chief of Staff to the President was replaced by that of the Chairman, Joint Chiefs of Staff, the other members being the Chief of Staff of the United States Army, the Chief of Naval Operations, the Chief of Staff of the United States Air Force, and the Commandant of the United States Marine Corps.

The Joint Chiefs of Staff, frequently termed the JCS, are the "principal military advisers" of the President, the NSC, and the Secretary of Defense. Their duties specifically include:

- (1) preparation of strategic plans and provision for the strategic direction of the military forces;
- (2) preparation of joint plans and assignment to the military services of logistic responsibilities in accordance with such plans;
- (3) establishment of unified commands in strategic areas;
- (4) review of major material and personnel requirements of the military forces in accordance with strategic and logistic plans;
- (5) formulation of policies for joint training of the military forces;
- (6) formulation of policies for coordinating the military education of members of the military forces; and
- (7) providing United States representation on the Military Staff Committee of the United



Approved *[Signature]*
Secretary of Defense
30 June 1953

Figure 1.—Organization Chart—Office of the Secretary of Defense.

Nations in accordance with the provisions of the Charter of the United Nations.

The chairman, selected from among regular officers by the President, has no vote and exercises no command over the JCS or any service. He serves as presiding officer, provides the agenda for meetings, and informs the Secretary of Defense or President when the JCS has been unable to reach agreement on issues. He is appointed for a 2-year term renewable only once, unless a state of war would make change unwise.

The Joint Chiefs have a Joint Staff not to exceed 210 officers drawn from the three services and headed by a Director appointed by the JCS. This relatively small, compact body in no way usurps the direct operational functioning of the individual armed services, but plans and coordinates. If the JCS must undertake operational functions, the service Chief most directly concerned acts as "Executive Agent" to control field and other agencies. The JCS exercise command authority as a body; they do not decide questions by majority rule. Most questions are satisfactorily resolved, but remaining differences of opinion are decided by higher authority.

The Joint Staff is divided into three groups: the *Joint Strategic Plans Group*, the *Joint Logistics Plans Group* and the *Joint Intelligence Group*. Of necessity most studies involve intergroup collaboration. The Staff works full time for the JCS, and its members are not responsible to their own services. Since considerable amounts of JCS work involve detail that must be provided by the individual services, a number of Joint Committees have been established to work with the Joint Staff. The principal ones are the *Joint Strategic Survey Committee*, *Joint Strategic Plans Committee*, *Joint Intelligence Committee*, and *Joint Logistics Plans Committee*.

The first of these committees is the senior policy planning and advisory group for the JCS, dealing with broad political-military problems from a military viewpoint. The other three committees are part-time, staffed by officers with regular duties in their own departments closely related to their committee assignments. Plans prepared by any of the groups are reviewed by the appropriate committee before submission to the JCS and committee members are able to call upon their respec-

tive services for advice. Thus the particular requirements and problems of the various services are coordinated in the planning of the Joint Staff. There are of course, still other specialized committees as depicted in figure 2. And *ad hoc* committees are also created to meet specific additional needs.

The responsibilities of the JCS have been delineated in the excerpt from the law given earlier in this section. The JCS contribute to the establishment of priorities to insure the meeting of military needs. Increasingly, too, they are working on budget allocations of the three services to be sure they match the strategic and logistics plans agreed upon. Specific questions come to them from the Services, cabinet secretaries, other Government departments, or from one of their own joint staff groups.

The complexity of the problems of the JCS can be quite readily illustrated. For example, they have to consider the problem of stockpiling: How much will we require of certain specific materials? Other typical problems might be: How great is the threat of submarine warfare? How much oil and gas will be required in war and how long will the war last? Are reserves adequate? Is rationing feasible? What is the availability of men and weapons? In planning the need for bases they must evaluate requirements in relation to availability, defense, and cost of acquisition. Of great importance are intelligence estimates regarding both enemies and allies, what they may or can do.

Since planning can never be on the basis of unlimited strength, the JCS must decide what risks can be accepted, what ones are unavoidable, and how these policies or positions interact upon each other. Future weapons planning is also an uncertain and complex problem with tremendous consequences at stake. Many of these weighty problems hinge upon estimates of future international developments, a matter of good intelligence assessment. All of the planning must be done within the limits of available money appropriations.

When the JCS finally prepare a strategic plan, it consists of four essentials: (1) a statement of national war objectives; (2) a statement of enemy capabilities; (3) a broad general concept of operations; and (4) a statement of a number of time-

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OFFICE OF THE SECRETARY OF DEFENSE

JOINT CHIEFS OF STAFF

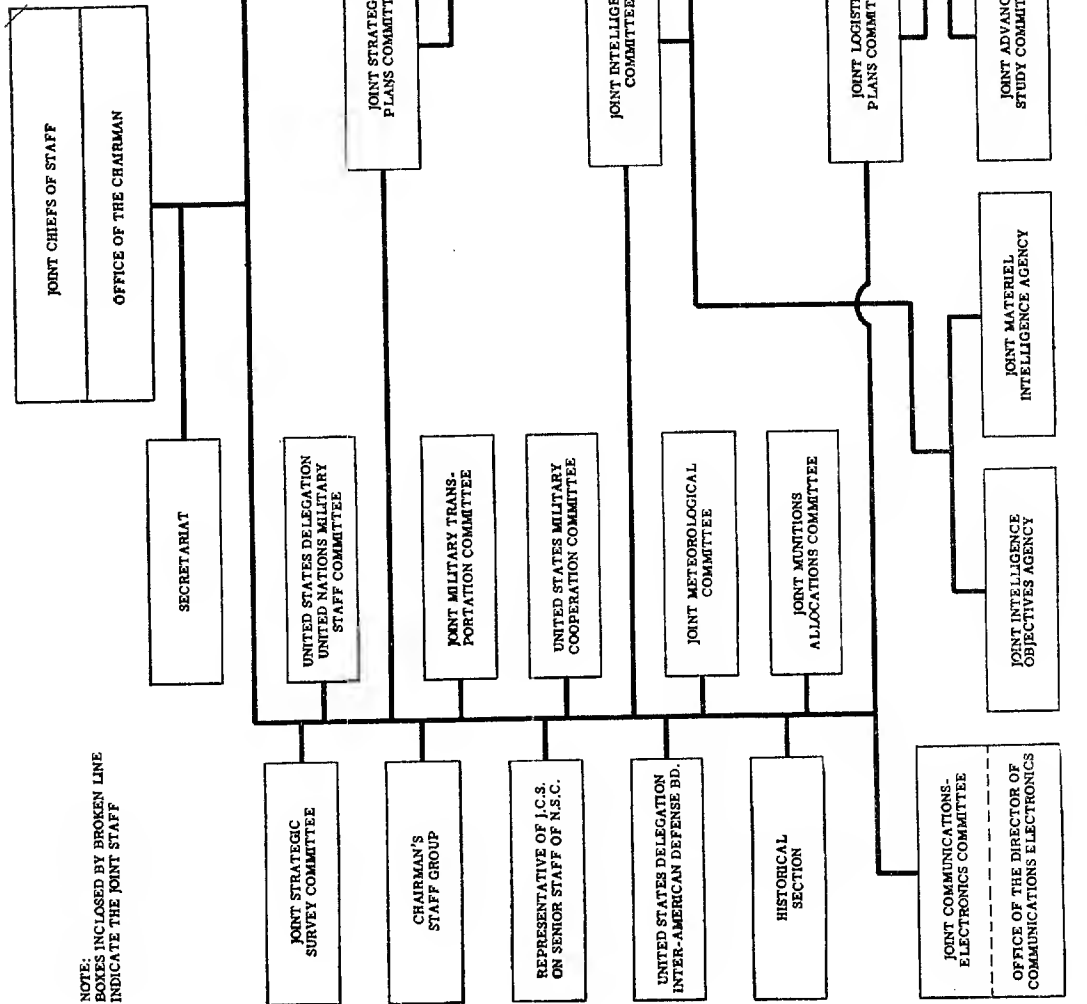


Figure 2.—Organization Chart—Joint Chiefs of Staff.

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phased military tasks to be undertaken by the military forces, including the major tactical units to perform the tasks. The importance of the intelligence function in such planning is evident.

THE DEPARTMENT OF THE NAVY

An understanding of the organization of the Navy Department is important to the intelligence officer for at least two reasons. In the first place, since Intelligence must supply many kinds of information required by the planners and commanders, its ability to supply meaningful information in no small measure depends upon its understanding of the organization it serves. Secondly, Intelligence is dependent upon its whole parent organization for most of the raw material which it is to process into finished intelligence. Likewise, since the same information may be of use to all three services, and any part of another service may be a source of intelligence useful to the Navy, an understanding of the other national security agencies is also important.

The National Security Act of 1947 describes the functional organization of the Department of the Navy as follows:

The term "Department of the Navy" as used in this Act shall be construed to mean the Department of the Navy at the seat of government; the headquarters, United States Marine Corps; the entire operating forces of the United States Navy, including naval aviation, and of the United States Marine Corps, including the reserve components of such forces; all field activities, headquarters, forces, bases, installations, activities, and functions under the control or supervision of the Department of the Navy; and the United States Coast Guard when operating as a part of the Navy pursuant to law.

In general the United States Navy, within the Department of the Navy, shall include naval combat and service forces and such aviation as may be organic therein. It shall be organized, trained, and equipped primarily for prompt and sustained combat incident to operations at sea. It shall be responsible for the preparation of naval forces necessary for the effective prosecution of war except as otherwise assigned, and, in accordance with integrated joint mobilization plans, for the expansion of the peacetime components of the Navy to meet the needs of war.

All naval aviation shall be integrated with the naval service as part thereof within the Department of the Navy. Naval aviation shall consist of combat and service and training forces, and shall include land-based naval aviation, air transport essential for naval operations, all air weapons and air techniques involved in the operations and activities of the United States Navy, and the entire remainder of the aeronautical organization of the United States Navy, together with the personnel necessary therefore.

The Navy shall be generally responsible for naval reconnaissance, anti-submarine warfare, and protection of shipping.

The Navy shall develop aircraft, weapons, tactics, technique, organization and equipment of naval combat and service elements; matters of joint concern as to these functions shall be coordinated between the Army, the Air Force, and the Navy.

It also describes the organization and functions of the Marine Corps:

The United States Marine Corps, within the Department of the Navy, shall include land combat and service forces and such aviation as may be organic therein. The Marine Corps shall be organized, trained and equipped to provide fleet marine forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign. It shall be the duty of the Marine Corps to develop, in coordination with the Army and the Air Force, those phases of amphibious operations which pertain to the tactics, technique, and equipment employed by landing forces. In addition, the Marine Corps shall provide detachments and organizations for service on armed vessels of the Navy, shall provide security detachments for the protection of naval property at naval stations and bases, and shall perform such other duties as the President may direct: *Provided*, That such additional duties shall not detract from or interfere with the operations for which the Marine Corps is primarily organized. The Marine Corps shall be responsible, in accordance with integrated joint mobilization plans, for the expansion of peacetime components of the Marine Corps to meet the needs of war.

Historical Development

On April 30, 1798, Congress established the Department of the Navy and the Office of the Secre-

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tary. Before that time the Secretary of War was responsible for naval affairs. After 1815 the organization was modified to include a board of three naval officers to serve as professional assistants to the Secretary. Then in 1842 this board of Navy commissioners was abolished, and the system of technical bureaus was established. By the time of World War I, the post of Chief of Naval Operations was established, and between the two world wars an Assistant Secretary for Air was also appointed. The immense new responsibilities developed during World War II were formalized in the legislation now governing Navy organization.

Present-Day Navy Organization and Functions

Although the National Security Act of 1947 set forth basic Navy responsibilities, later amplifications have been promulgated. The President and the JCS issued a paper on April 21, 1948, entitled "Functions of the Armed Forces and the Joint Chiefs of Staff." It specifies four purposes common to all three services for military operations: (1) to support and defend the Constitution of the United States against all enemies, foreign or domestic; (2) to maintain, by timely and effective military action, the security of the United States, its possessions, and areas vital to its interest; (3) to uphold and advance the national policies and interests of the United States; and (4) to safeguard the internal security of the United States. Among the more specific functions this document describes is that of providing adequate, timely, and reliable intelligence for use within the National military establishment.

Using this 1948 document as an authority, the Department of the Navy, in General Order No. 5, established three principal organizational components and enumerated four principal tasks. The principal components are:

1. *The Operating Forces*: the several fleets, seagoing forces, sea frontier forces, district forces, and such of the shore establishments of the Navy and other forces and activities as may be assigned to the operating forces by the President or Secretary of the Navy.

2. *The Navy Department*: the executive part of the naval establishment located at the seat of the government, which comprises the bureaus, boards and offices of the Navy Department; the Headquarters of the Marine Corps; and the

Headquarters of the Coast Guard (when assigned to the Navy).

3. *The Shore Establishment*: all other activities of the naval establishment including all shore activities not assigned to the operating forces.

It is fundamental naval policy to "maintain the Navy as a thoroughly integrated entity in sufficient strength on the sea and in the air to uphold, in conjunction with our other Armed Forces, our national policies and interests, to support our commerce and our international obligations, and to guard the United States including its overseas possessions and dependencies." The implementation of this policy imposes upon the administration of the naval establishment four principal tasks:

1. First, to interpret, apply and uphold the national policies and interests in the development and use of the naval establishment. This task may be described as the "*policy control*" of the naval establishment.

2. Second, to command the operating forces, and to maintain them in a state of readiness to conduct war; and to promulgate to the naval establishment directives embracing matters of operations, security, intelligence, discipline, naval communications, and similar matters of naval administration. This task may be described as the "*naval command*" of the naval establishment.

3. Third, to coordinate and direct the effort of the Navy Department and the shore establishment in order to assure the development, procurement, production and distribution of material, facilities and personnel to the operating forces. This task may be described as the "*logistics administration and control*" of the naval establishment.

4. Fourth, to develop and maintain efficiency and economy in the operation of the naval establishment with particular regard to matters of organization, staffing, administrative procedures, the utilization of personnel, materials and facilities, and the budgeting and expenditure of funds. This task may be described as the "*business administration*" of the naval establishment.

The first and third tasks require additional comment. Policy control includes guidance of the Navy as a whole, appraisal of its overall performance, and public relations in the broadest sense. Logistics is further described in General Order No. 5 as having two phases: consumer logistics,

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and producer logistics. The former involves the planning and forecasting of requirements on the basis of operational plans, a responsibility of the Chief of Naval Operations. The latter involves the developing and procuring of these requirements. Consumer logistics is intimately associated with naval command while producer logistics is a matter of business administration, although, of course, the two are intimately related.

Distribution of Executive Responsibilities

Figure 3 outlines the principal subdivisions of the Department of the Navy. It will be noted that the secretary has 4 civilian executive assistants and a larger number of naval professional assistants, including the naval command assistant (Chief of Naval Operations) and up to 12 naval technical assistants (counting the Chief of Naval Reserve, Chief of Naval Material, and, when so assigned, the commandant of the Coast Guard).

The Secretary directs and controls the entire naval establishment and retains immediate responsibility for policy control, public relations, morale, and budget. The civilian executive assistants handle business administration and producer logistics, exercising top management coordination of the work of the many bureaus and offices in the Navy Department. Bureau heads, however, have direct liaison with the Secretary, although routinely most of their business is transacted either through the Chief of Naval Operations or one of the civilian executive assistants. The balancing of military with civilian authority and responsibility within the Navy is shown by the division between the naval command assistant with his subordinates and the civilian executive assistants with their staffs.

Office of the Chief of Naval Operations (CNO)

The Chief of Naval Operations is the highest ranking officer in the Department of the Navy. As such he is a member of the JCS and is the principal naval adviser to the President, Secretary of Defense, and Secretary of the Navy. He is in command of the operating forces and includes among his responsibilities their training, readiness, and war planning. He is required to determine the personnel and material requirements of the operating forces and to this end coordinates

and directs the efforts of the various bureaus and offices of the Navy Department.

His Vice Chief of Naval Operations (VCNO) supervises the General Planning Group and the work of the five Deputy Chiefs of Naval Operations (DCNO): Personnel, Administration, Operations, Logistics, and Air. There is also an Assistant Chief of Naval Operations (Naval Reserve) advanced from his former position under the Deputy Chief of Naval Operations (Personnel). The General Planning Group prepares broad strategic plans and aids in developing logistics requirements in support of such plans. These naval plans are based on overall plans received from the JCS. Another more recent change is the Progress Analysis Group to report on Navywide progress and readiness for war. Both the Commandant of the Marine Corps and the Commandant of the Coast Guard (in wartime) deal directly with the Chief of Naval Operations on matters of common interest.

The office of the Chief of Naval Operations is organized along the same lines as the general staff of the Army, although different titles are used and there are some variations. For example, personnel and administration are separate sections. The latter directs United States naval missions, Navy participation in pan-American affairs, naval records and history, the Naval Observatory, the Naval Hydrographic Office, and the Naval Communications Service. Air also has its separate organization to develop aircraft and guided missiles, to organize aviation logistics, and to develop air warfare operating plans. The DCNO (Operations) Division includes intelligence and plans, so that the Director of Naval Intelligence is subordinate to the Deputy Chief of Naval Operations. This same subordination exists in the Air Force.

Training responsibilities are allocated as follows: individual training to the Chief of Naval Personnel, group training to the Deputy Chief of Naval Operations (operations), and aviation to the Deputy Chief of Naval Operations (Air). By general policy either the Chief or the Vice Chief of Naval Operations must be a naval aviator to insure full representation of aviation needs. The Vice and Deputy Chiefs derive their authority solely from the Chief of Naval Operations, in the same manner as with staffs afloat. Although not in-

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flexible or fixed by formal regulations, the most frequent relationships between CNO and the Bureaus are found as follows: DCNO (Logistics) with Yards and Docks, Ordnance, Supplies and Accounts, Ships, Medicine and Surgery; DCNO (Personnel) with Personnel; and DCNO (Air) with Aeronautics.

The Naval Inspector General reports both to the Chief of Naval Operations and to the Secretary of the Navy. He investigates and reports on all matters affecting the discipline and military efficiency of the Navy, making such recommendations as are required. In his work he has great latitude, and every part of the service is open to his scrutiny. His investigations are not to be confused with those made by the Office of Naval Intelligence which relate to *security* and are made only on request of competent authority.

The Operating Forces

Since World War II, all United States forces outside the continental limits have been organized under unified area commands. Each is under a commander-in-chief who has control over all United States forces—Army, Navy, and Air Force in his area—as assigned by the Joint Chiefs of Staff. Under the Executive Agent concept mentioned earlier, the Chief of Naval Operations holds that JCS position for the Pacific, Atlantic, and Eastern Atlantic-Mediterranean commands. The Chief of Staff, United States Army, is the Executive Agent for the Far East (FEC), Caribbean, and European (EuCom) commands as well as United States Forces in Austria. The Chief of Staff, United States Air Force, is the Executive Agent for the Alaskan and Northeast commands, the United States Air Force Europe, and the Strategic Air Command (SAC).

The Chief of Naval Operations has under his direct control the Pacific Fleet, Atlantic Fleet, and Naval Forces Eastern Atlantic and Mediterranean. Each fleet has type components: Amphibious, Fleet Marine, Air, Battleships and Cruisers, Destroyers and Destroyer Escorts, Mine, Submarine, Service Force, and Training Commands.

Under Commander-in-Chief, Pacific Fleet (CinCPac) is the First Fleet, operating in the Eastern Pacific, and the Seventh Fleet, in the Western

Pacific. However, during the Korean fighting operational control of the latter fleet has been held by the Commander-in-Chief, Far East (Army) exercised through Commander Naval Forces, Far East (ComNavFE). The Commander-in-Chief, Atlantic Fleet (CinCLant), has the Second Fleet, and the Operational Development Force for evaluation tests. Commander-in-Chief Eastern Atlantic and Mediterranean (CinCNELM) has the Sixth Fleet in the Mediterranean, receiving logistic support from CinCLantFlt. Each of these fleets is composed of appropriate ships temporarily assigned from type commands, and each is a purely operational command, the administration remaining under the type commander.

Naval Forces, Germany (NavForGer) is under Commander-in-Chief, Europe (Army). The Military Sea Transportation Service (MSTS) is under the Chief of Naval Operations. In addition there are Pacific and Atlantic Reserve Fleets made up of the "moth-ball" ships. The Commanders of the Western and Eastern Sea Frontiers respectively command these fleets as additional duty.

Sea Frontiers

Sea Frontier forces are part of the Operating Forces of the Navy. Geographically there are five such forces. The Eastern Sea Frontier (East-SeaFron) includes waters off the Atlantic and Gulf Coasts and the 1st, 3d, 4th, 5th, 6th, 8th, and 9th Naval Districts, plus Naval Commands of the Potomac and Severn Rivers. This sea frontier command is under CinCLant. The Caribbean Sea Frontier, under the Commander-in-Chief, Caribbean (Army), includes the 10th and 15th Naval Districts, plus adjacent waters in the Caribbean and nearby Pacific. The Western Sea Frontier (WesSeaFron) under CinCPac includes the 11th, 12th, and 13th Naval Districts, as well as eastern Pacific waters. The Hawaiian Sea Frontier also under CinCPac includes the 14th Naval District and central Pacific waters. The Alaskan Sea Frontier is under Commander-in-Chief Alaska (Air Force) and includes the 17th Naval District and north Pacific waters.

These command relationships are in the field of military operations. Sea Frontier commanders are responsible for maintaining adequate plans for the defense of their respective areas, both of a

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naval and a joint nature. They also must be ready to expedite and protect merchant shipping in their areas. Naval participation in search and rescue operations is under their control.

In addition to operational duties, Sea Frontier commanders are administratively in the chain of command between the Chief of Naval Operations and the District Commandants. This is military command and coordination control in the interests of uniformity of action and avoidance of duplication among the districts. District Commandants still can deal directly with the Navy Department on matters not involving coordination or the military readiness of their forces.

The Shore Establishment

The shore establishment includes the field activities of the bureaus and offices of the Navy Department and all shore activities not assigned to the operating forces. These activities are largely involved in producer logistics for the support of the operating forces. Although located principally in coastal areas, they may be scattered anywhere throughout the United States and its territories.

It is appropriate at this point to provide an explanation of the formal command relationships which apply specifically to the Shore Establishment, based on General Order No. 19 which gives the official definitions.

Command is the authoritative direction exercised over a unit or individual of the Naval Establishment in all matters pertaining to the conduct of naval affairs not specifically expected by higher authority and is commensurate with the responsibility imposed. Inherent in command are precedence over all personnel serving with the command, the responsibility for coordinating the efforts of the units or individuals commanded, the power to enforce the official will of the commander through the exercise of the necessary military directions, the authority to make inspections to insure compliance with such directions, and the initiation or application of authorized disciplinary measures incident thereto. A commander, within his discretion, may delegate the execution of the details to be performed by his authority to appropriate subordinates, but such delegation does not relieve him of the overall responsibility for

the performance of the personnel or units under his command.

In General Order No. 19 "command" is subdivided into four components which are defined as follows:

Military Command is the authoritative direction exercised over activities of the Naval Establishment in military matters together with the power to exercise authoritative direction in all matters when circumstances dictate.

Military command stems from the Chief of Naval Operations, and is exercised over activities of the shore establishment through the Sea Frontier Commanders and the District Commandants, the Chief of Naval Air Training, and the Commandant of the Marine Corps. It includes matters characteristic of a military organization, as contrasted to matters of the type provided for under Management Control in industry or business.

Coordination Control is that necessary direction of separate units of the naval establishment to insure adequately integrated relationships between all of these units.

Coordination Control is a responsibility of the Chief of Naval Operations, exercised through the Sea Frontier Commanders and the District Commandants, over shore activities located within the several districts. It fulfills the twofold purpose of providing for orderly and complete service in support of the operating forces and coordination between shore activities under different commands.

Management Control is the direction exercised, in other than military matters, by an authority of the Naval Establishment over a unit of the naval shore establishment in the administration of its local operating functions.

Management Control is exercised by the designated bureau or office of the Navy Department over a field activity in the non-military administration of its functions. Bureau management reflects the policies and procedures of the Civilian Executive Assistants in the fields of Business Administration and Producer Logistics, and includes overall responsibility for the work performed. It is to be noted that in the operating forces Management Control is included in "Command" and is always the responsibility of the Chief of Naval

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Operations. Command in the operating forces is not divided into the four components specified in General Order No. 19; however, commands of the operating forces which control activities of the Shore Establishment exercise that control in accordance with these four components.

Technical Control is the specialized or professional guidance or direction exercised by an authority of the naval establishment in technical matters.

Technical Control is exercised by the bureaus and offices of the Navy Department according to their specialized technical responsibilities. This control extends throughout the naval establishment.

The shore establishment consists of district activities, fleet activities based ashore, Marine Corps supporting activities, and the Naval Air Training Command. Their relationships with the districts, sea frontiers, fleet commands, and bureaus, are governed by the regulations indicated above.

A District Commandant is an officer of the line qualified for command at sea. In his naval district he acts as the representative of the Secretary of the Navy, Chief of Naval Operations, Sea Frontier Commander, and the various bureaus of the Navy Department. His responsibilities include support of the operating forces, defense of the district, control of public relations, maintenance of industrial mobilization plans, control of naval reserve matters, and maintenance of an efficient intelligence service both for security and operational purposes. Additional duties include operation of naval communications, collaboration with other Government authorities, supervision of legal matters, public works, and transportation.

Each major harbor or operating area within a district has a Naval Base Commander, with primary responsibility to support the operating forces. A Naval Shipyard is but one component of a Naval Base. There are also Naval Air Base Commands with appropriate subordinate commands, including all aviation activities within a district with the exception of training commands, Marine Air commands, and weather centrals.

The United States Marine Corps

The Marine Corps, whose mission has been stated earlier, is divided like the Navy into three components: the headquarters, the operating forces,

and the supporting establishment. Headquarters include the Offices of the Commandant, the Supply Department, and the Personnel Department. In the Offices of the Commandant, the Division of Plans and Policies formulates intelligence plans.

The major commands of the operating forces are Fleet Marine Forces, Atlantic, and Fleet Marine Forces, Pacific, each under a Commanding General, located respectively at Norfolk, Va., and at Honolulu. These forces contain balanced land, air, and service elements. The Marine Corps Security Forces guard naval shore activities, with a Marine Barracks established at each. Ship detachments, actually a part of the security force, serve as gun crews and small-sized landing parties. The supporting establishment includes the quartermaster depots and other facilities required to service the Operating Forces.

OTHER DEFENSE DEPARTMENTS

The Department of the Army and Department of the Air Force resemble the Department of the Navy in structure, but different histories and missions have brought about somewhat different solutions to their organizational problems.

The Department of the Army

This title refers both to the whole Army establishment and to the executive offices in Washington. The Department of War, created in 1789, became the Department of the Army in 1947 at which time the Department of the Air Force was established. The Secretary of the Army has responsibilities and an organization similar to those of the Secretary of the Navy. His department includes a Chief of Staff, a General Staff, a Special Staff, various administrative and technical staffs and services, the Office of the Chief of Army Field Forces, the continental armies, and the overseas commands.

The mission of the Army places its primary interest in all operations on land, but its forces include also such aviation and water transportation as may be organic to its land combat and service forces.

Figure 4 shows the Washington offices of the Department of the Army. Most of the titles are self-explanatory. The chiefs of the technical services, however, have a dual role. They not only

serve in the manner of the chiefs of technical bureaus in the Navy in determination of requirements, procurement, and storage of supplies, under the direction of the Assistant Chief of Staff G-4 Logistics, but they also command their technical branches and certain installations. For example, the Chief of Transportation commands Ports of Embarkation, Railway Repair Depots, and other Transportation Corps facilities.

The Army organization provides for each military commander a staff to aid him in his work. Divisions and larger units have a Chief of Staff to direct and coordinate a General Staff which in its four divisions, G-1 Personnel, G-2 Intelligence, G-3 Operations, and G-4 Logistics, includes all functions of command. Under the coordinating General Staff is such Special Staff organization as may be required, including all other staff officers in a headquarters not specifically part of the General Staff. In brigades or smaller units the director and coordinator for the commander is called the Executive, and there is no special staff, but there is an equivalent of the General Staff, known as S-1 Adjutant, S-2 Intelligence, S-3 Operations and Training, S-4 Supply, and such other staff officers as may be required.

Since the same pattern of organization appears at every level of the Army, there is no loss of efficiency when officers are transferred from one unit to another or between levels, for their responsibilities are clearly defined and understood. The American General Staff system has one interesting variation from that of other countries, such as Germany. The United States Army rotates officers between staff and command assignments; the Germans built a preferential elite corps earmarked almost solely for staff assignment.

The Office, Chief of Army Field Forces, is the field operating agency of the Department of the Army for the continental United States and is located at Fort Monroe, Va. The Army Field Forces are responsible for training, development of doctrine, and equipment. Its responsibility for overseas forces is limited to setting training standards and doctrine, and determining operational readiness. Orders to overseas commands are issued through the Department of the Army.

The United States is divided geographically into six Army Areas and a Military District of

Washington. The Commanding General of each area, or district, commands all units and activities within his area except those specifically commanded by one of the Technical Services or other agencies of the Department of the Army.

Army Territorial and Troop Organization

The Army refers to any land, sea, and air masses involved in the conduct of war as theaters of war. A theater of operations refers to an area where actual tactical operations are or can be conducted, and it may be subdivided into a combat zone and a communications zone. The combat zone may include division areas at the front, behind them corps service areas, and behind those in turn army service areas. The communications zone relieves combat commanders of responsibility for logistics and security operations not concerned with their primary combat missions. It is divided into an advance section, an intermediate section, and a base section.

That part of the theater of war not included in the theater of operations is called the zone of the interior—a term usually applied to the United States, but on occasion also to foreign territory whether allied, neutral, or hostile.

Army troop organizations range from the army group down to the rifle squad. An army group is primarily a tactical command made up of several field armies. A field army includes a headquarters, certain organic troops, and a variable number of corps and divisions. The army is both administrative and tactical. A corps also includes a headquarters and certain organic troops plus a variable number of divisions. It is primarily a tactical unit but can be administrative. A division is the basic unit of combined arms, including headquarters, infantry, armored or airborne units, artillery, and other units as required. It is both administrative and tactical.

There are smaller units such as the brigade, a tactical unit of two or more regiments, headquarters and other small units; a group, a flexible organization with various attached units to accomplish a particular mission; a regiment, with headquarters, service company, and two or more battalions, or other smaller units; a battalion, the basic tactical unit; a company or battery, the basic administrative unit; a rifle platoon; a weapons

section; and a squad. An army rifle squad has 9 men; in contrast, the Marines divide their 13-man squads into three 4-man fire teams. The rifle platoon is the smallest infantry unit commanded by a commissioned officer. Such personnel and equipment as are not required consistently by a particular unit are pooled and assigned to a higher unit.

When particular tactical groupings are required, special task forces are created, preserving as much as possible the integrity of component units. Armored divisions sometimes have combat commands with their own headquarters companies to direct temporary tactical groupings. The infantry division frequently uses a combat team consisting of an infantry regiment, supporting artillery, and engineers, or possibly also a signal detachment, medical battalion, and so forth. This is called a regimental combat team (RCT).

The Army classifies as "arms": the Infantry, Armored Cavalry, Field Artillery, Coast Artillery, Corps of Engineers, and Signal Corps. It classes as "administrative services": the Adjutant General's Department, the Chaplains, the Corps of Military Police, the Inspector General's Department, the Judge Advocate General's Department, and the Finance Department. It classes as "technical services": the Chemical Corps, the Corps of Engineers, the Quartermaster Corps, the Transportation Corps, the Ordnance Department, the Signal Corps, and the Medical Department.

Department of the Air Force

From a modest beginning in 1907 as the aeronautical division in the Office of the Chief Signal Officer, the United States air arm has developed tremendously under the impetus of two world wars. In World War I the Army Air Corps was used in combat operations, and during World War II the Army Air Forces expanded to nearly 2½ million men operating 80,000 aircraft. After the war there was a reduction in size, but by 1950 the objective was a total of 143 wings as a result of the Korean War and the world situation.

The National Security Act of 1947 and its subsequent amendments created an Air Force Establishment, a Department of the Air Force, and the United States Air Force. The civilian Secretary and his assistants have functions comparable to

their counterparts in the Department of the Navy and Army. The Chief of Staff, United States Air Force, is the principal military adviser to the Secretary and exercises command over the Air Force. His Air Staff includes a Vice Chief and Deputy Chiefs as shown in figure 5. The five deputies are for Comptrolling, Personnel, Development, Operations, and Materiel. As was pointed out earlier, Intelligence is under Operations, together with Plans, Communications, Manpower, and Organization.

The Air Force is charged with the responsibility of being "organized, trained, and equipped primarily for prompt and sustained offensive and defensive air operations." Its missions as formally defined include (1) defense of the United States against air attack; (2) the defeat of enemy air forces and the control of vital air areas; (3) the interdiction of enemy land power and communications; (4) the furnishing of combat and logistical air support to the Army, including air lift and resupply of airborne operations, close combat air support, aerial photography, tactical reconnaissance, etc.; (5) the carrying out of a campaign of progressive planned destruction of the enemy's war-making capacity; and (6) the providing of air transport for the Armed Forces. There are also the collateral duties of interdiction of enemy sea power, antisubmarine warfare, protection of shipping, and aerial minelaying. The latter are closely coordinated with naval efforts.

Major Air Commands

There are 13 major commands in the United States and 5 overseas, all under the Chief of Staff, United States Air Force. Those in the United States are grouped functionally as follows: (a) operational: Strategic Air Command, Tactical Air Command, Air Defense Command; (b) supportive operational: Military Air Transport Service, USAF Security Service, Headquarters Command; (c) training: Air University, Air Training Command, Continental Air Command; (d) developmental and logistic: Research and Development Command, Air Materiel Command, Air Proving Ground Command, Special Weapons Command.

The Strategic Air Command (SAC) includes heavy and medium bombers, long and medium

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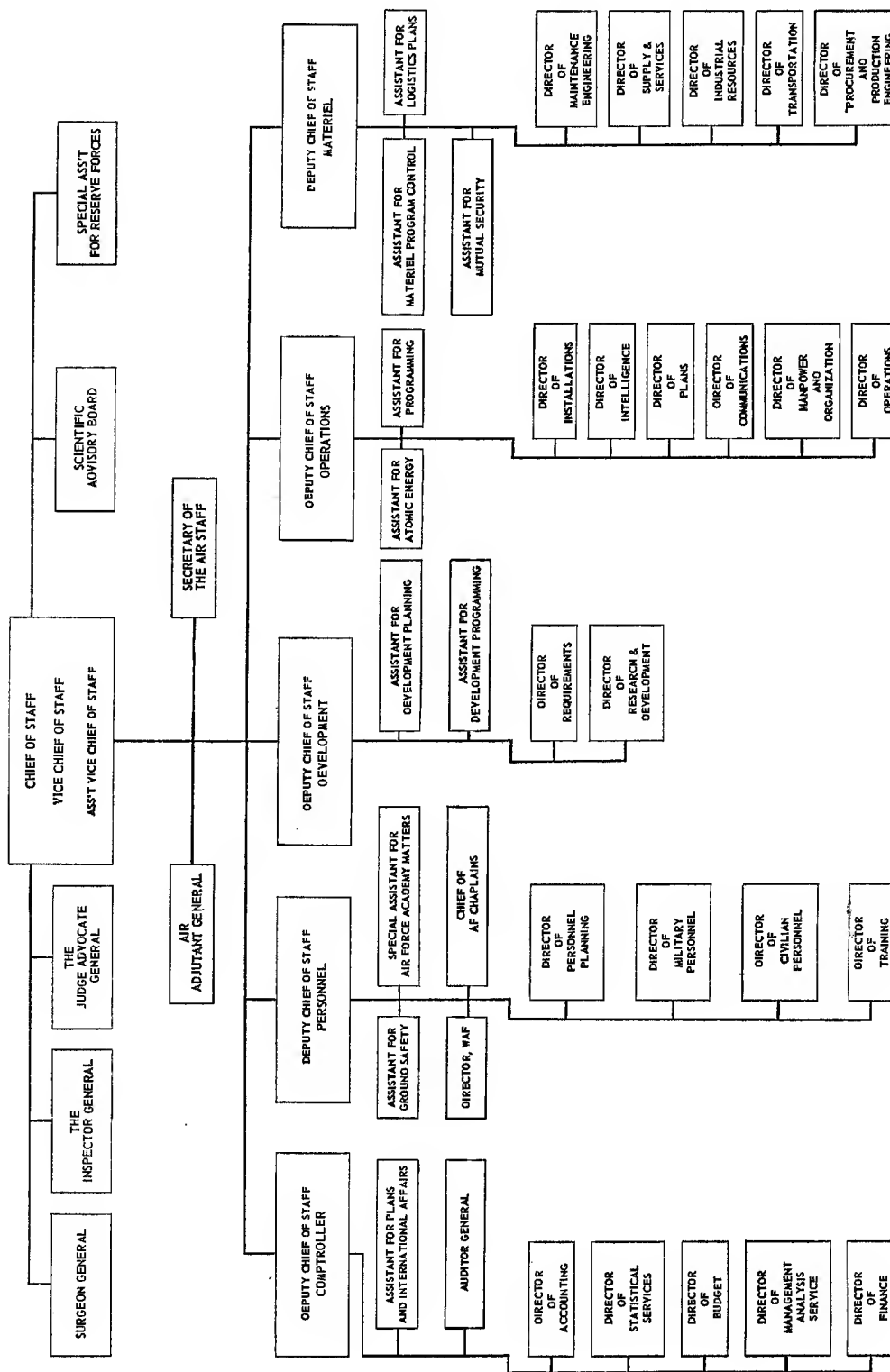


Figure 5.—Organization Chart—Department of the Air Force.

range reconnaissance aircraft, transports, and jet fighters. Organizationally it includes the 2d, 8th, and 15th Air Forces, each with several air divisions; overseas it maintains the 5th and 7th Air Divisions. Its missions may carry it to any part of the globe.

The Tactical Air Command includes fighter-bombers, light bombers, reconnaissance aircraft, and troop carriers. Organizationally it includes the 9th and 18th Air Forces. It works closely with the Army Field Forces in developing tactical air support doctrines.

The Air Defense Command (ADC) controls fighter-interceptor units, air bases, and radar stations along the possible air attack routes in this country. It consists of three regional forces, the Eastern, Central, and Western, each made up of several air divisions, supplemented by Air National Guard wings. Their operations are closely integrated with the Navy Sea Frontier system and the respective Army Anti-Aircraft Artillery commands. Elements of ADC may be assigned to commands outside the United States by the Joint Chiefs of Staff.

The Military Air Transport Service (MATS) combines the former Air Transport Command and Naval Air Transport Service. Its routes extend around the world, and it can provide military air lift as required. It provides supplementary services such as airways communications, weather reporting, air and sea rescue. It includes personnel of the Navy as well as of the Air Force. A special operation of MATS is the Air Resupply and Communication Service (ARCS) which trains Air Force units in the preparations and dropping of psychological warfare pamphlets.

The USAF Security Service produces and disseminates communications intelligence and maintains communications security within the Air Force. The Headquarters Command is primarily an administrative adjunct of the Headquarters, United States Air Force, and operates the base for the heavy traffic in and out of Washington. The Air University includes a variety of schools and institutes ranging from the Air War College to the Extension Course Institute. The Air Training Command is responsible for all training below the Air University level from recruit to flying officer, and for this purpose uses the Flying Training

Air Force and the Technical Training Air Force. The Continental Air Command constructs and maintains air bases and other facilities within the United States, using as subcommands the 1st, 4th, 10th, and 14th Air Forces.

The six research centers of the Research and Development Command work on aircraft, missiles, and armament. The Air Materiel Command buys, supplies, and maintains Air Force equipment throughout the world. The Air Proving Ground Command develops operational techniques and makes recommendations on requirements for equipment. The Special Weapons Command is part of the joint Army-Navy-Air Force atomic weapons organization.

Overseas there are five air commands. The generals of the Alaskan and Northeast Commands are also theater commanders over all three services in their areas. The Caribbean Air Command and Far Eastern Air Force (FEAF) are under Army theater commanders and the United States Air Force in Europe (USAFE) operates under the North Atlantic Treaty Organization.

Although the preceding discussion of organizations for United States security is relatively brief, it provides a necessary background in nomenclature and functions. The balance of this chapter will deal with supporting intelligence subdivisions, emphasizing those within the Department of Defense, but including others which are of interest.

NAVAL INTELLIGENCE

Naval Intelligence includes all the organizations that carry out the intelligence and counterintelligence missions of the naval establishment. The responsibilities of the Director of Naval Intelligence are: (1) to provide the naval elements required in the production of national intelligence; (2) to produce for naval commanders adequate and timely intelligence needed both for planning and conducting operations, and for estimating the capabilities, vulnerabilities, and proper courses of action of foreign nations; (3) to warn naval commanders of threats to the security of their commands.

The components of Naval Intelligence are: (a) the Office of Naval Intelligence; (b) Intelligence foreign posts (Attachés, Observers, and Liaison

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Officers); (c) Naval District and River Command Intelligence organizations; (d) Intelligence sections and units of the operating forces including outlying bases; and (e) joint and combined Intelligence and liaison activities. Each of these components will be discussed in turn.

It will clarify our point of view to think of all naval intelligence officers as serving on the intelligence section of some commander's staff, the size and organization of the section depending on the needs of the command. On lower echelons, the intelligence section may consist of a single officer who also performs other duties, such as that of assistant operations officer; and the commander—for example, the captain of a ship or an air squadron—may not be normally thought of as having an organized staff at all. On higher echelons, intelligence duties may require the full time services of many officers. The higher the echelon of command, the more extensive the staff organization, and the larger and more complex the intelligence section.

The highest echelon of the United States Naval Command is that of the Chief of Naval Operations (CNO). CNO's Intelligence Officer is the Director of Naval Intelligence (DNI), and his intelligence section is the Office of Naval Intelligence (ONI).

Office of Naval Intelligence (ONI)

Under the Director and Assistant Director of Naval Intelligence, ONI (OP-32) is divided into three branches which carry out the various objectives necessary for the accomplishment of the general mission of Naval Intelligence. Each branch of ONI is subdivided into sections, which are further divided into units and desks. Figure 6 indicates the current ONI organization.

As the counterintelligence arm of the Navy, the Security Branch (OP 321) is charged with the safeguarding and security of naval information, personnel, equipment, and naval installations. Its five sections are: Investigations; Sabotage, Espionage and Counter-Subversion (SEC); Security Control; Commerce and Travel; and Censorship.

Of particular interest are the Investigations Section and the SEC Section. The Investigations Section conducts investigations as required to pro-

tect the Naval Establishment against espionage, sabotage, subversion and unauthorized disclosure of classified information. It also conducts other types of investigations upon request by competent authority—for example, investigations of applicants for naval employment. The SEC Section functions as a research and evaluation unit, coordinating and disseminating intelligence relating to sabotage, espionage, and counter-subversion. These two sections work as a team. The SEC Section keeps track of the danger spots; its work is primarily a desk job. The Investigations Section acts as the hands and feet of the SEC Section.

The Intelligence Branch (OP 322) is responsible for strategic and operational intelligence, specifically including air intelligence, and for the coordination of naval intelligence activities on foreign posts. It is required to collect and process information, and to disseminate intelligence produced or received; to maintain liaison with other Federal intelligence agencies; and to direct and coordinate the preparation of intelligence directives, plans, and manuals.

Its five sections are Estimates, Collection and Dissemination, Foreign, Operational, and Air. The Collection and Dissemination Section maintains official intelligence liaison with the Army, Air Force, State Department, and the Central Intelligence Agency. This Section also discharges the responsibility of the Intelligence Branch for the collection of information by Naval Intelligence foreign posts. One of its subsections maintains the CNO Chart Room; another provides maps, charts, photographs, and related material for intelligence purposes. The Foreign Section is responsible for supplying intelligence on foreign powers to the policy, planning, operational, and logistics agencies of the Navy. The Operational Section insures that timely intelligence, both basic and current, is disseminated within ONI and to the operating forces. The Air Section provides intelligence on foreign air power and coordinates the naval aspects of the joint air production intelligence activities of ONI and the Air Force.

The Administrative Branch (OP 323) supervises all management activities within and for ONI. Its five sections are: Field Activities, General Services, Personnel, Fiscal, and Training. General services include such matters as: publica-

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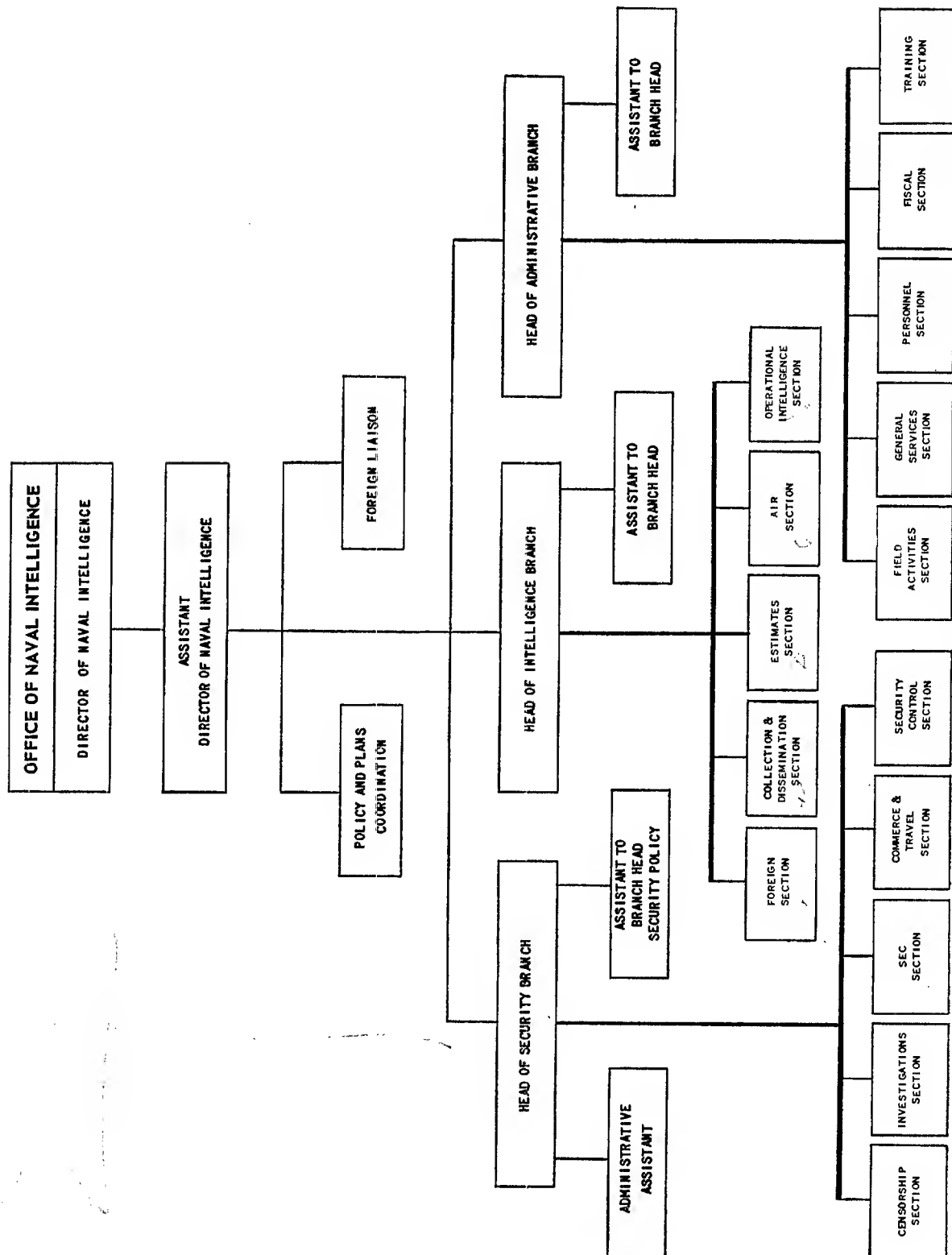


Figure 6.—Organization chart—Office of Naval Intelligence.

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tions, editorial review, reproduction, mail, files, and translation. The Personnel Section is responsible for the Naval Intelligence Reserve Program.

Included within ONI are also offices responsible for Plans and Policies, Foreign Liaison, and Secretariat. The Plans and Policies office prepares and coordinates Naval Intelligence plans. The Foreign Liaison office maintains official liaison between ONI and foreign attachés, missions, and distinguished visitors. It also advises United States Naval officers in matters of protocol. The Secretariat reviews correspondence, reports and messages and otherwise relieves DNI of administrative details.

Intelligence Foreign Posts (Attachés, Observers and Liaison Officers)

Naval Attachés and their staffs who reside abroad are officially a part of ONI and thus under the cognizance of DNI. At the same time, attachés and assistant attachés have diplomatic status and report for duty to the ambassador or minister who is the chief of the diplomatic mission to which they are assigned.

Naval Attachés are in command of naval attaché offices whose size is determined by ONI in accordance with the importance of the area controlled by the governments to which the attachés are accredited. The primary function of Naval Intelligence officers stationed abroad is to collect information in accordance with the official delimitation of topical material between the Navy, Army, Air Force, and State Department, and to forward it, after preliminary evaluation, to the Collection and Dissemination Section of ONI. Foreign Posts are supported by the Intelligence Branch.

Naval District and River Command Intelligence Organizations

General Order No. 19 states in part: "... The Commandant shall maintain within the district an efficient intelligence service, including such intelligence matters as affect the security of naval activities within the district, and such operational intelligence matters as are required by the commander of the sea frontier in which the district is located ..."

Accordingly, in each District and River command, a District Intelligence Officer (DIO) serves

on the staff of the Commandant, just as DNI serves on the staff of CNO. In certain designated districts, the DIO has additional duty on the staff of the Sea Frontier Commander. The District Intelligence Office under the DIO is thus the Intelligence Section of the commandant's staff.

While each District Intelligence Office is under the military command of the Commandant, its activities are coordinated by ONI which provides administrative support. Each District Intelligence Office is organized in a manner similar to ONI although its primary mission is in the field of counterintelligence. Just as the Intelligence Branch of ONI supports naval attachés and other naval intelligence officers on foreign duty, the Security Branch supports the DIOs and their organizations. The relationships and responsibilities of the DIO to DNI and to the Commandant are comparable to those of the naval attaché to DNI and to the Chief of Mission.

The District Intelligence organization consists of a headquarters office, zone and subordinate offices as required, and intelligence units at naval stations and other naval activities as designated by the Commandant. The personnel of zone and subordinate offices are directly under the DIO. Intelligence officers assigned to naval stations and other naval activities are members of the staffs of those commands.

Under the technical guidance of the DIOs, the various naval districts and river commands conduct specialized intelligence training programs for officers of the Naval Intelligence Reserve.

Intelligence Sections and Units of the Operating Forces, Including Outlying Bases

In the fleet, as in the district and river commands, the basic pattern of the intelligence organization is that of the staff section. On the staff of each area, fleet, type, and task force commander, and on the staffs of all flag officers exercising command, there is an intelligence section headed by a flag Intelligence Officer.

Sections 0504 (4) and 0506 (1), Navy Regulations, 1948, provide, respectively, that a commander in Chief, or commander of any other organization or unit of the Operating Forces shall "maintain an effective intelligence organization and keep himself informed of the political and

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military aspects of the national and international situation" and shall "keep his immediate superior appropriately informed of . . . intelligence information which may be of value."

These two articles make each commander responsible for the collection, processing, and dissemination of intelligence within his own command, and the dissemination of intelligence to higher echelons. Because of the complexity of present-day naval operations, and the consequent need for a steady and voluminous flow of intelligence, a commander must rely on his staff to carry out most of his intelligence responsibilities.

Wartime intelligence organization in the operating forces was by no means uniform. This diversity was due in part to the relative independence of the various commands, and in part to their widely differing needs. Late in World War II, considerable progress was made toward uniformity. Nevertheless, the exigencies of any future war are likely to result in intelligence organizations quite different from those of peacetime, since each commander must bear the responsibility for organizing his intelligence section to meet his particular needs. But no future development will alter the responsibility incumbent upon intelligence officers with the operating forces—as upon all members of Naval Intelligence—to see that all intelligence received or produced flows upward to the higher echelons where it can be properly evaluated and disseminated and so, ultimately, reaches the Office of Naval Intelligence.

For background purposes, the organization of fleet intelligence during World War II need be only summarized. In general, the area commanders were served by large intelligence centers, which later set up offices in forward sectors for more rapid collection and dissemination. These intelligence centers proved their usefulness, and counterparts of them are likely to be established in any future war. They were intelligence agencies, usually large, which served the commander and all subordinate units of his command, but were separate from the relatively small intelligence section of the staff itself. So far as practicable, they were joint activities of the Navy and the other armed forces. Their normal work included photography, photo-interpretation, hydrography, cartography, target and flak analysis, interrogation

and translation. On the lower echelons of the area command, an intelligence officer—sometimes with one or more assistants—was assigned to each flag afloat, including fleet air wings. Intelligence officers were also assigned to battleships, cruisers, destroyer and motor torpedo boat squadrons, all major amphibious units and all carriers, air groups and air squadrons.

Since World War II, ONI and the Bureau of Naval Personnel have had the objective of placing trained intelligence officers in all echelons of command. In practice, however, on many staffs, no trained intelligence officer is available, and a staff officer is given additional duty in intelligence. Shipboard intelligence organizations also have suffered from a lack of personnel. Article 0916, Navy Regulations, 1948, provides that the operations officer of a ship, under the commanding officer, shall be responsible for the collection and analysis of intelligence information. Accordingly an intelligence officer, when available, is assigned to the operations department of every capital ship and of other ships as conditions warrant.

The primary responsibility of intelligence officers assigned to the operating forces is to meet the intelligence requirements of their immediate commander. However, they have an added responsibility, through their commander to ONI, in collecting information for not only their immediate command but also the Naval Establishment as a whole. Intelligence Sections and units of the operating forces are supported by the Intelligence Branch of ONI.

Joint and Combined Intelligence and Liaison Activities

During World War II the scope and diversity of the fighting required an unprecedented degree of joint and combined activity and hence joint and combined intelligence. United States naval intelligence officers served as observers with the British Fleet. British personnel were attached to American armed forces. Amphibious operations in both the Pacific and the European theaters were planned and supervised jointly by sea, ground, and air specialists.

Naval Intelligence participated in joint intelligence activities on all echelons during World War

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II, from the Joint Intelligence Committee, the intelligence agency of the Joint Chiefs of Staff, down to small field units engaged in such tasks as the exploitation of captured documents and the interrogation of prisoners of war. Less than a dozen of these joint intelligence activities survived the peace.

Several trends initiated in wartime have continued in the postwar period—namely, the trends toward joint and combined scientific research and development, joint and combined intelligence production, and joint and combined staff training.

All commanders of naval operating forces are authorized and directed, subject to the prior approval of DNI, to conduct or participate in joint intelligence activities which they believe are required for successful execution of their missions. Among the assignments open to naval intelligence officers are participation in the work of the Joint Staff, under the Joint Chiefs of Staff, and duty in the Central Intelligence Agency.

MARINE CORPS INTELLIGENCE

While the United States Marine Corps draws its intelligence information from the Navy, it patterns its Intelligence organization after the Army. The Commandant of the Marine Corps has a staff Intelligence Officer (G-2) and a headquarters intelligence section which produces intelligence of interest to the Corps on such subjects as foreign coasts, landing beaches, and associated subjects. Most strategic intelligence is obtained directly from ONI. During joint operations the Marine Corps also obtains intelligence from the Army.

Intelligence Officers are assigned to all Marine operating units of battalion level and higher. The size of the intelligence section varies with the size and needs of the unit. For example, a battalion has but one intelligence officer, while a division may have five officers in its intelligence section. Marine intelligence officers are also assigned to duty in ONI, in Naval Attaché billets, on naval operating staffs and with the Central Intelligence Agency.

ARMY INTELLIGENCE

The Army intelligence organization is officially called the "Office of the Assistant Chief of Staff,

G-2, Intelligence, General Staff, United States Army." The Assistant Chief of Staff, G-2, is a member of the General Staff, United States Army, and is coequal with the heads of the other General Staff divisions. He is thus an echelon higher than his naval counterpart, the Director of Naval Intelligence, but his responsibilities are substantially the same.

As shown in figure 7, there are five operating divisions in the Army's G-2 organization: Administrative, Collection and Dissemination, Production, Security, and Training. Each consists of several branches. The Administrative Division contains the following Branches: Attaché, Fiscal, Message Center (communications), Personnel, and Service (including records and translation). The Collection and Dissemination Division operates the War Room, is responsible for intelligence requirements and publications, and maintains the G-2 Document Library. The Production Division is composed of the Estimates Branch, three geographic branches—Eastern, Western, and Eurasian—the Technical and Special Research Branches, Area Resources Branch, and the Air Intelligence Component which works with the Air Force. In the Security Division are the three branches responsible for censorship, personnel security, and the security of military information. The Training Division is concerned with regular and reserve intelligence training, and also operates the Map and Photo Branch.

The Army Security Agency (ASA) and the Counter-Intelligence Corps (CIC) are specialized organizations of importance. ASA is responsible for communications intelligence and security. CIC is the counterintelligence agency of the Army; it makes all investigations for which the Army is responsible under the Delimitation Agreement, and also investigates compromises of military information and cases involving foreign nationals both in the United States and abroad. Each of these agencies takes care of its own administration, including the procurement, training and assignment of personnel, and the development of equipment and doctrine. Their work, however, comes within the purview of G-2, and close liaison and coordination is maintained.

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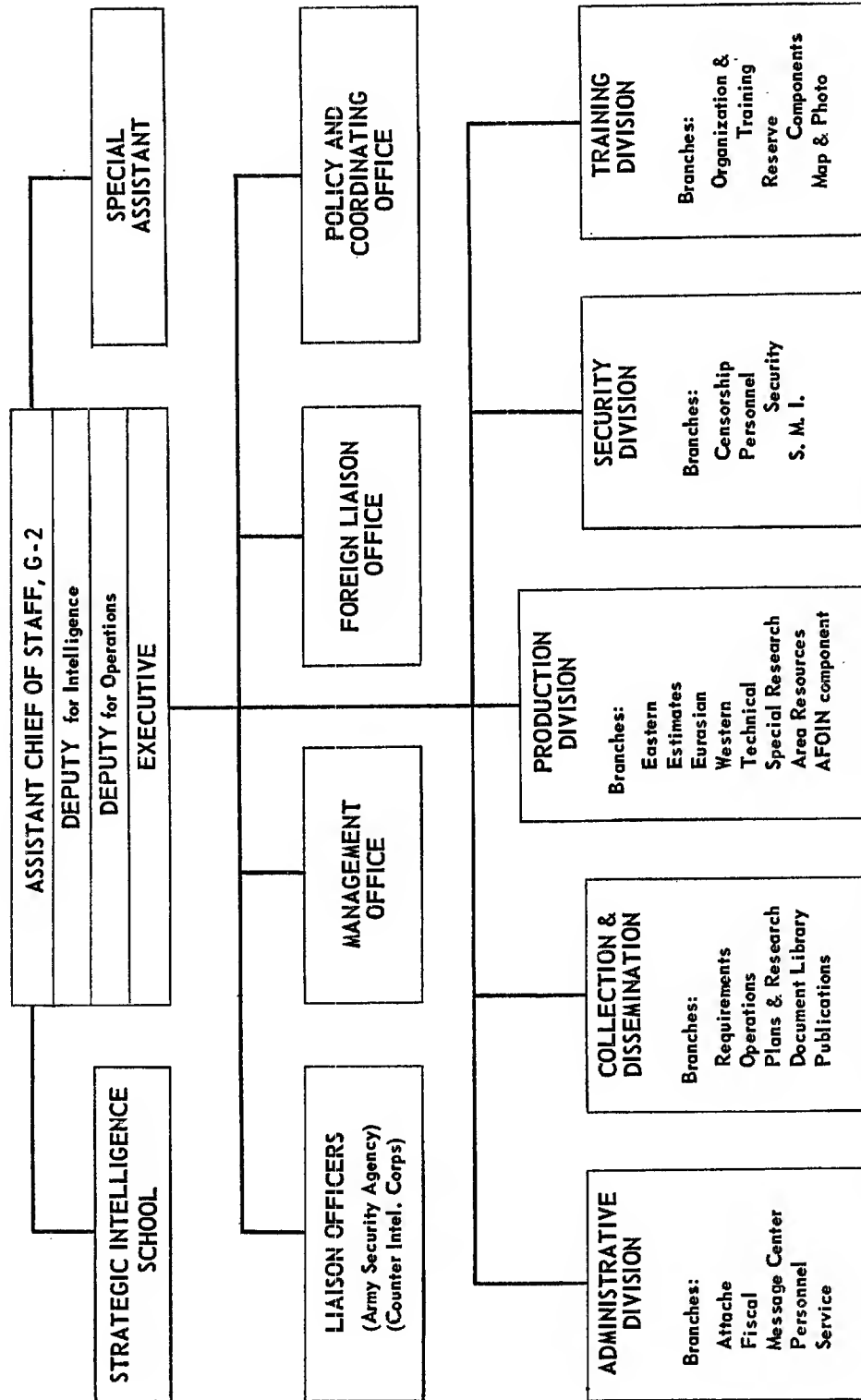


Figure 7.—Organization Chart—Office of the Assistant Chief of Staff, G-2, Intelligence, General Staff, U. S. Army.

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AIR FORCE INTELLIGENCE

The Directorate of Intelligence under the Deputy Chief of Staff for Operations, Headquarters, USAF, is usually abbreviated "D/I" and designated AFOIN—literally *Air Force Operations Intelligence*—a term corresponding to "Op 32" in the Navy. In command structure, the Air Force follows the Navy, rather than the Army, in making Intelligence subordinate to Operations. This Air Force organization deserves special comment for several reasons. It differs from ONI and G-2 in that it has no responsibility for counterintelligence; it formulates no policy for safeguarding military information; and it specifically produces intelligence for the other military services. The Navy and the Army provide approximately one-third of the personnel in the intelligence producing divisions of the Directorate in return for processed air intelligence for the Army, Navy, and Marine air arms.

Figure 8 indicates that Air Force Intelligence is headed by a Director of Intelligence assisted by three Deputy Directors: for Collection and Dissemination, Estimates, and Targets. The Director also administers the Air Technical Intelligence Center.

The Director's responsibilities include collecting information on the air potential and air forces of foreign countries; producing intelligence from this information; and disseminating this material not only within the Air Force, but also to the Joint Chiefs of Staff, the Central Intelligence Agency, and other departments and agencies as appropriate. He directs and controls all USAF intelligence activities, including the Air Attaché system. He sets up the air intelligence requirements for USAF photo reconnaissance, mapping and charting and geodetic surveying programs. He is further responsible for meeting the intelligence requirements of the continental and overseas air commands, and the air administrative and technical services. The Director also represents the Air Force on intelligence matters with other departments and agencies of the United States Government and with foreign governments.

The Office of the Director of Special Investigations, an agency under the USAF Inspector General, is the counterintelligence agency of the Air Force. It is responsible for safeguarding military

information, and for investigating all cases of espionage, sabotage, treason, subversion, etc., within the Air Force.

FEDERAL BUREAU OF INVESTIGATION (FBI)

The FBI is the chief internal security agency of the Federal Government. It is now responsible for investigating violations of more than 100 Federal laws. Under some of these laws, such as the Atomic Energy Act and the Federal Employees Loyalty Program, specific responsibility has been given to the FBI by the law itself or by Presidential Directive. Under others, the FBI exercises its general investigative functions in all cases where the United States is or may become a party in interest. The FBI also promotes scientific crime detection by means of its laboratory, its fingerprint files, and the FBI National Academy for law-enforcement officers.

The FBI is organized in seven Divisions: (1) Identification; (2) Training and Inspection; (3) Administration; (4) Records and Communications; (5) General Investigations; (6) Laboratory; and (7) Security. The latter division is of primary interest to Naval Intelligence because of mutual counterintelligence responsibilities.

THE DELIMITATION AGREEMENT

The Delimitation Agreement originated in a Presidential directive of 26 June 1939, which provided that investigations of all matters concerning espionage, counterespionage, subversion, and sabotage (the "four categories") should be conducted and controlled *exclusively* by Naval Intelligence, Military Intelligence, and the FBI. The heads of these three agencies were directed to form a committee to pool information and coordinate activities. This became the Interdepartmental Intelligence Conference (IIC), which worked out the Delimitation Agreement, prescribing the jurisdiction and investigative duties of each of the three agencies. Under the original Agreement, the Navy assumed responsibility for the investigation and disposal of cases in the "four categories" involving (a) personnel of the Naval Establishment, including civilians employed by the Navy, and (b) personnel in areas under its administrative control: Guam, Samoa, Palmyra,

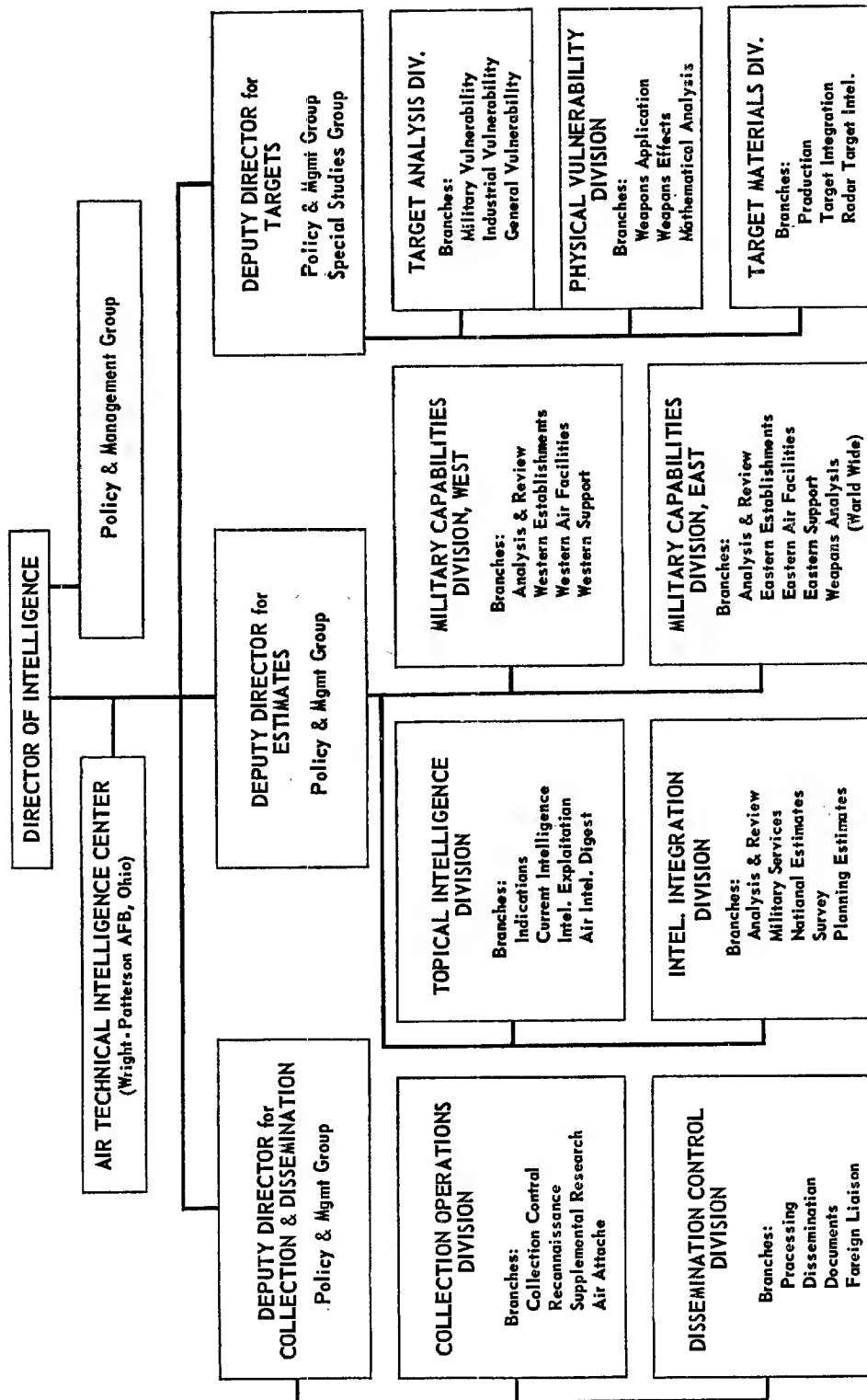


Figure 8.—Organization Chart—Directorate of Intelligence, Deputy Chief of Staff for Operations, Headquarters, USAF

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Johnson, Wake, and Midway. In Japan, the Navy and FBI had joint responsibility.

After the War, changes in the Delimitation Agreement were necessitated by the Atomic Energy Act of 1946, which provided that everyone authorized to have access to "restricted" atomic data should have been investigated by the FBI. Some of the people for whom such authorization was desired wore Army or Navy uniforms. Accordingly, the FBI was required to conduct investigations of all Armed Forces personnel for "Q clearances" for access to "restricted" atomic data. However, as a result of the Agreement of February 1951, Armed Forces personnel are now given access to "restricted" atomic data on the strength of their military security clearances, except in cases involving contractors with the Atomic Energy Commission or their employees.

The Delimitation Agreement was also affected by the Federal Employees Loyalty Program (Executive Order 9835 of March 21, 1947). Although this applied mainly to civilian employees in the Executive Branch of the Government, it directed the Armed Forces to take such steps as necessary to ensure the loyalty of their own personnel. It also directed the FBI to make all investigations. Accordingly, the Navy is no longer responsible for investigations in the "four categories" of civilians whom it employs or over whom it has administrative control. Nevertheless, in areas under Naval Administrative control, the Navy in practice still does the job for the FBI, and also investigates all cases involving personnel of the Military Sea Transportation Service. For purposes of the Delimitation Agreement, Reserve personnel on inactive duty are civilians.

To sum up, in the "four categories", the Navy now restricted to investigations involving *active duty and retired naval and marine personnel*, the exceptions stated above. However, its restriction to make general security investigations in the "four categories" is not restricted either by the Delimitation Agreement or any other regulatory document; and it still makes many investigations involving civilians, for example, in cases involving its own employees, applicants for naval employment, and employees of naval contractors.

By provision of the National Security Act of 1947, the Director of Special Investigations,

USAF, joined the Director, FBI, the Assistant Chief of Staff, G-2, and the Director of Naval Intelligence on the Interdepartmental Intelligence Conference. Thus the Air Force is governed by and participates in the provisions of the Delimitation Agreement.

STATE DEPARTMENT INTELLIGENCE

The Special Assistant to the Secretary of State, Intelligence, has the rank of Assistant Secretary of State. His office provides the departmental intelligence of the State Department. In the field of national intelligence, it is primarily, though not exclusively, responsible for political, cultural, and sociological matters, by NSC directive. In practice, it has also produced most economic intelligence and considerable scientific intelligence. It has a special responsibility for coordinating overt intelligence activities abroad, since, by NSC directive, the Chiefs of Mission are the coordinators of such activities.

As shown in figure 9, the State Department Office of Intelligence has two major suboffices, each of which has a number of divisions. The Office of Intelligence Research (OIR) plans and develops an intelligence research program along regional and functional lines, and coordinates it with that of other Federal agencies. In this manner the Department is provided with the intelligence necessary for the formulation and execution of foreign policy. On the other hand, information pertinent to national security is furnished to the Security Council, the Central Intelligence Agency, and the Department of Defense.

In addition to carrying on intelligence research, OIR prepares or participates in the preparation of studies and spot intelligence for authorized recipients in the Department and other Federal agencies. It continuously scrutinizes world situations and deals with intelligence problems submitted to it by the Secretary, Under Secretary, Planning Adviser, and other State Department officials, as well as the Central Intelligence Agency and the Department of Defense. It directs Department of State participation in the National Intelligence Survey basic research program and works in close cooperation with the Central Intelligence Agency and other governmental agen-

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INTELLIGENCE FOR NAVAL OFFICERS

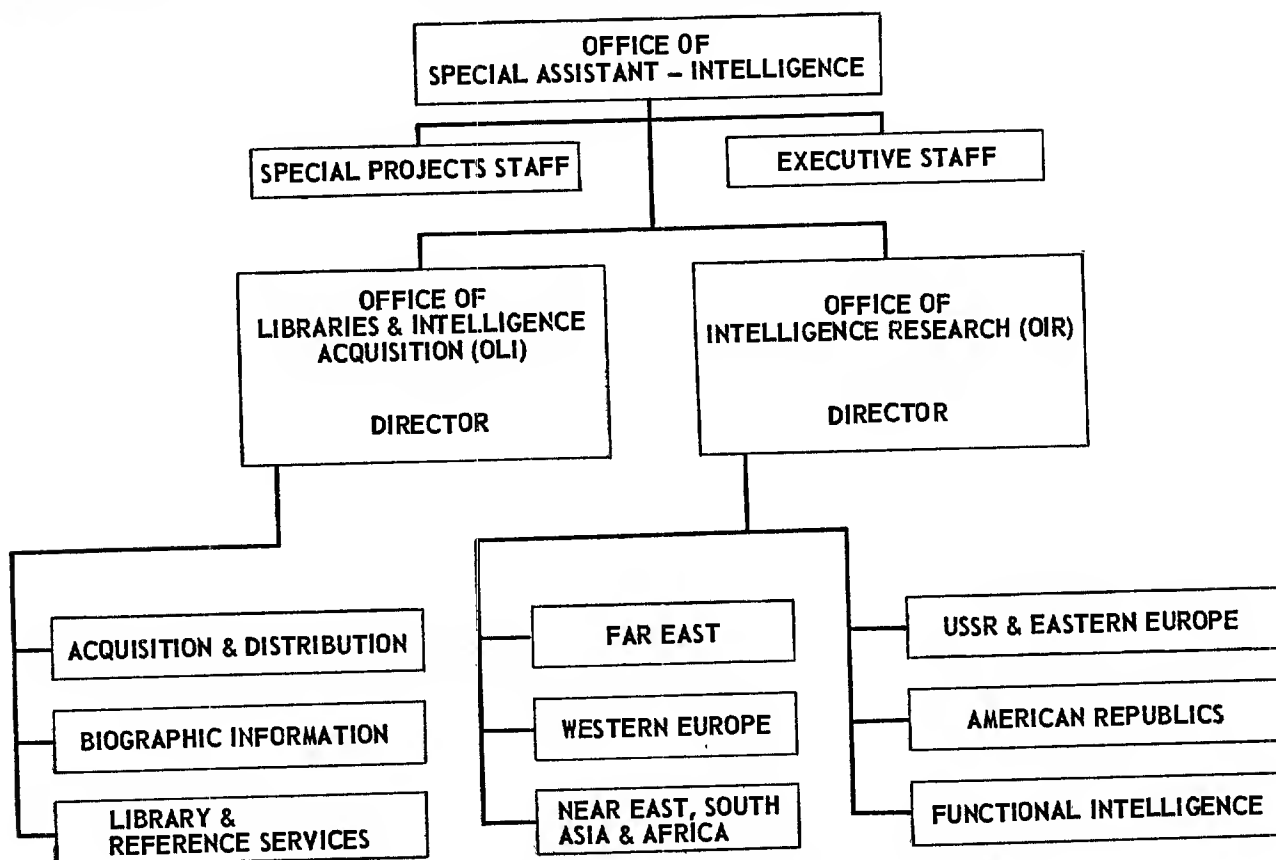


Figure 9.—Organization Chart—Office of Intelligence, Department of State.

cies engaged in the production of National Intelligence Survey materials.

The Office of Libraries and Intelligence Acquisition (OLI) has a collection responsibility and also maintains a library program for the Department, which includes policy guidance and assistance to the libraries of the Foreign Service establishments overseas. It collects and evaluates biographic information on foreign individuals, involving the preparation of analytical biographic studies as well as the maintenance of the Department's central collection of biographic and security information of foreign persons. It collects, processes, and evaluates security intelligence pertaining to foreigners and organizations abroad.

The security program of the State Department and the Foreign Service is supervised by the Office of Security and Consular Affairs, in large part through the Division of Security. The functions of this Division include development of security policy for the Department and the Foreign Service

and provision for their personnel and physical security by: (1) conducting investigations of applicants for employment in the Department and Foreign Service; (2) directing those investigations requiring coverage overseas in connection with the President's Loyalty Program; (3) evaluating investigative reports and making recommendations to the Loyalty and Security Board in appropriate cases; (4) establishing and supervising control measures for documentary, communications, and building security for the Department in Washington; (5) directing, through appropriate channels, the security program in Foreign Service establishments.

Further, it furnishes additional investigation services for the Department with respect to: (1) passport, visa, munitions control, and other cases; (2) individuals, organizations, situations, trends, and developments constituting a threat to the security of the United States; (3) other matters, as requested.

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UNITED STATES ORGANIZATIONS FOR NATIONAL SECURITY

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The Security Division also provides security protection for official guests of the United States Government and other distinguished visitors, and for international conferences in the United States. It maintains official liaison with the Federal Bureau of Investigation, the Treasury Department, the Post Office Department, and other domestic security and law enforcement agencies. It cooperates with Department of Justice on questions of policy in connection with the Foreign Agents Registration Act. No foreigner can get a visa for entry into the United States unless he has been cleared through the Visa Division. Such clearance is effected or denied on the basis of information gathered by the Department and other governmental intelligence agencies with which it maintains close liaison.

ATOMIC ENERGY COMMISSION INTELLIGENCE

Because of the importance of intelligence concerning the military applications of nuclear power, the Atomic Energy Commission (AEC) has an Office of Intelligence and a Division of Security.

The Atomic Energy Act of 1946 first provided four divisions, Research, Production, Engineering, and Military Applications, to aid the General Manager in carrying out his duties. Other divisions were needed, and in 1948 a Division of Security and Intelligence was created. Shortly thereafter, this division became the Division of Security when a separate Office of Intelligence was formed with a Director.

The Office of Intelligence has no collection function, but it may request information from other agencies. When information of atomic and thermonuclear interest is received by any government agency (including the non-intelligence agencies such as Commerce), it is forwarded to the AEC where a group of highly trained scientists in the Office of Intelligence evaluates the incoming information. The Director of Intelligence may also call upon the leading scientists in the country for consultation on the proper evaluation of information received. The resultant intelligence is disseminated to the President, the National Security Council, the Department of Defense, CIA, and others as appropriate. This evaluation is AEC's important contribution to intelligence.

A great and continuing concern of the Atomic Energy Commission is the safeguarding of our atomic program from espionage, sabotage, theft, and destruction. This counterintelligence function is taken care of by the Division of Security. In Washington, on the General Manager's staff, the Division of Security has four sections: Physical Security, Personnel Security, Document Control, Violations and Visitor Control. The functions of each section are essentially what the names imply. The Division also supervises field security offices at nine installations in the United States. Internal security investigations are initiated by these offices, but if it appears that a regulation of the Atomic Energy Act has been violated, it becomes a case for the FBI.

INTERDEPARTMENTAL INTELLIGENCE AGENCIES

There are many areas of activity and interest where the intelligence requirements of two or more government agencies or departments coincide; therefore, in the interests of efficiency and the coordination of effort interdepartmental intelligence agencies are established. If all the participating departments are military, the agency is called "joint."

Intelligence Organization for the Joint Chiefs of Staff

The Joint Intelligence Committee (JIC), together with its full-time staff, the Joint Intelligence Group (JIG), is the intelligence agency of the Joint Chiefs of Staff. As such, it is the highest-level intelligence agency within the Department of Defense. Its members are: the Assistant Chief of Staff, G-2, General Staff, U. S. Army; the Director of Naval Intelligence; the Director of Intelligence, USAF; and the Deputy Director of the Joint Staff for Intelligence. In short, the Joint Intelligence Committee is composed of the intelligence chiefs of all the armed forces, plus a fourth member who directs the Joint Intelligence Group.

The JIC is charged with: (a) the preparation of joint intelligence estimates for the Joint Chiefs of Staff and their subordinate committees; (b) the coordination of photographic, mapping, and charting activities of the Department of Defense; and (c) security matters within JCS jurisdiction.

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Since the three departmental committee members devote only a part of their time to JIC matters, a full-time working staff is required to prepare joint estimates, reports, plans and policies for Committee approval. This staff is the Joint Intelligence Group of the Joint Staff.

The JIC/JIG differs from other intelligence organizations relating to the national security in that it is neither a collecting nor a disseminating agency. It does not duplicate the work of the departmental agencies or the CIA, but merely uses the intelligence material of those agencies to meet the intelligence requirements of the JCS and their supporting committees and groups.

Interdepartmental Coordinating Committees

Where the intelligence requirements of two or more departments coincide, the necessary collection and production operations are brought into common action by special-purpose committees. There are a number of such coordinating committees, the most important being the Interdepartmental Intelligence Conference (IIC), discussed in connection with the FBI, the Intelligence Advisory Committee (IAC), which serves to coordinate the Central Intelligence Agency (CIA) with the other Federal intelligence agencies concerned with the national security, and the National Intelligence Survey (NIS) Committee. The IAC is composed of the intelligence directors of the Justice Department (FBI), the State Department, the Atomic Energy Commission, the Army, the Navy, the Air Force and the Joint Staff, in addition to the Director of Central Intelligence, who acts as chairman.

During World War II, the main source of basic intelligence for the armed forces was a series of handbooks known as Joint Army-Navy Intelligence Studies (JANIS). The deficiencies of the JANIS series emphasized the fact that basic intelligence must be produced on a much broader scale, over a longer period, and, as far as possible, in time of peace. Therefore, on 13 January 1948, the NIS program was initiated.

The NIS Program represents the combined intelligence efforts of the CIA, the Army, the Navy, the Air Force, and the State Department. It is supervised by the NIS Committee, which consists of representatives of all the contributing agencies,

and is coordinated by the CIA. Its purpose is to produce a concise digest of basic intelligence, such as, encyclopedic knowledge of the geographic, economic, socio-political and military characteristics of every foreign country.

CENTRAL INTELLIGENCE AGENCY

During World War II, intelligence-coordinating agencies including the *Office of War Information* (OWI) and the *Office of Strategic Services* (OSS) were created by Presidential directive and a *Joint Intelligence Committee* (JIC) was established under the Joint Chiefs of Staff. The JIC soon recognized the need for, and proposed, a national agency to coordinate intelligence produced by the various Departments. Its proposal resulted in the Presidential letter of 22 January 1946, which created the National Intelligence Authority, and the Central Intelligence Group as its operating agency. The Authority was directed to plan, develop, and coordinate all Federal intelligence activities "so as to assure the most effective accomplishment of the intelligence mission related to the national security."

The National Security Act of 1947 established the National Security Council (NSC) which took the place of the National Intelligence Authority, specifically abolished by the act. The Central Intelligence Agency (CIA) was established under the Council as the statutory successor of the Central Intelligence Group.

The Director of CIA

The Act specifically provides for a Director of Central Intelligence, appointed by the President with the advice and consent of the Senate. The Director may be either a civilian or an officer of one of the armed forces. In the latter event, the Act provides the safeguard that, during his tenure, the Director shall be subject to no greater military control than would any civilian; nor shall he have or exercise any control, other than as Director, over any component of the armed forces. Service as Director is to have no effect, except as described above, on the status, office or rank in the Armed Forces of any military man so appointed.

One of the most important provisions of the Act gives the Director the right in his discretion to "terminate the employment of any officer or em-

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ployee of the Agency whenever he shall deem such termination necessary or advisable in the interests of the United States." This provision frees the director from civil service restrictions. In an intelligence agency, where security is paramount, freedom in dismissing employees is an obvious necessity.

The duties of the CIA are set forth in section 102 of the Act, as follows:

(1) to advise the National Security Council in matters concerning such intelligence activities of the Government departments and agencies as relate to the national security;

(2) to make recommendations to the National Security Council for the coordination of such intelligence activities of the departments and agencies of the Government as relate to the national security;

(3) to correlate and evaluate intelligence relating to the national security, and provide for the appropriate dissemination of such information within the Government using where appropriate existing agencies and facilities: *Provided*, That the Agency shall have no police, subpoena, law-enforcement powers, or internal security functions: *Provided further*, That the departments and other agencies of the Government shall continue to collect, evaluate, correlate, and disseminate departmental intelligence: *And provided further*, That the Director of Central Intelligence shall be responsible for protecting intelligence sources and methods from unauthorized disclosure;

(4) to perform, for the benefit of the existing intelligence agencies, such additional services of common concern as the National Security Council determines can be more efficiently accomplished centrally;

(5) to perform such other functions and duties related to intelligence affecting the national security as the National Security Council may from time to time direct.

The first paragraph of Section 102 directs and authorizes the CIA to serve as intelligence adviser to the NSC on all matters relating to the national security.

The second paragraph requires the CIA to make recommendations to the NSC for coordinating such intelligence activities of the Government as relate to the national security. In performing its duties under this paragraph the CIA has the counsel of the Intelligence Advisory Committee described in the preceding section. Through the

IAC, the CIA is able to maintain close contact with all the departmental intelligence agencies concerned with the national security; it can benefit from their knowledge, experience and judgment, and keep itself informed of their intelligence requirements. Their views can serve as the basis for recommendations made by the CIA to the NSC. In particular, the IAC can help the CIA determine the primary fields of intelligence responsibility of the various departments and agencies. Thus it can help in promoting efficiency by the elimination of duplicate missions, functions, and services.

The third paragraph of Section 102 provides for the correlation and evaluation of intelligence relating to the national security. This task involves the production of national intelligence. Just as the NSC integrates national policies that could not be integrated by either the State or the Defense Department alone, so the CIA draws upon the intelligence produced by the various departments, supplements it, and integrates it into a product which is suitable in content and form for national planning. However, the CIA does not interfere with the production of departmental intelligence. Each department must still evaluate, correlate, and interpret that intelligence which is within its own exclusive competence and is needed for its own use.

The CIA is further charged with the dissemination of national intelligence within the Government. Because of this responsibility, CIA must at all times know the intelligence requirements of the various Government departments and agencies. This function of disseminating national intelligence to the departments that need it is clearly essential. Owing to the volume and complexity of intelligence information available, it should be a centralized function; and the proper place for centralizing it is the focal point where all the streams of incoming intelligence converge.

Thus the Act gives the CIA two major functions of intelligence—production and dissemination. It makes no explicit provision for the third major function—collection. Nevertheless, the duties of the CIA under the second paragraph of Section 102, with respect to the coordination of departmental intelligence activities, entail the coordination of foreign intelligence collection. As to col-

lection, then, the role of the CIA is at least to prevent gaps, cross-purposes, and wasteful duplication among the various departments and agencies. On the one hand, to give a fictitious example, *some* department or agency should collect economic intelligence information. On the other hand, the Air Force should not concern itself with the collection of detailed sociological information about Java.

The fourth paragraph of this Section gives the CIA a further warrant for foreign intelligence collection by authorizing it to perform "such additional services of common concern as the National Security Council determines can be more efficiently accomplished centrally." In eliminating wasteful duplication of collection functions, therefore, the CIA can use either of two methods. It can discontinue the overlapping collection efforts of all but one of the departments, and arrange for that one to serve all the others. In doing so, it would merely be *coordinating*. Or, instead, it may *supplant* the collection efforts of all the departments with its own collection effort, and perform the collection function itself as a service of common concern to the existing intelligence agencies. Which, if either, method is used in any given case is of course determined by the NSC.

To sum up, then, the National Security Act recognized the need for departmental intelligence, and in fact specifically provided for its continuance; at the same time, the Act recognized the need for the *coordination* of departmental intelligence, and for the production and dissemination of national intelligence, and created the CIA to perform these functions; and, finally, the Act provided that certain unspecified intelligence functions should be centralized in the interests of efficiency.

OTHER UNITED STATES AGENCIES PRODUCING INTELLIGENCE

Although it is not possible to trace in detail the organizations of all agencies of government that collect information and process it into intelligence, it is most important for the naval officer engaged in intelligence work to realize that his sources are not limited to the national security agencies alone. With proper liaison he will discover that there are available vast analytical and

cataloguing resources in the federal government, and also many operating agencies with functions closely allied to security.

Department of the Treasury

A number of offices and bureaus within the Treasury have intelligence functions. The Office of International Finance studies foreign economies, international capital movements, gold movements, and exchange controls. It can block the movement of foreign assets under United States jurisdiction. The Bureau of Customs not only collects duties on imports but is concerned with preventing smuggling, registering vessels, and stopping the export of controlled materials. The Bureau of Narcotics controls trade in narcotic drugs and of necessity works closely with some foreign governments. The Alcohol Tax Unit may become involved in blocking illegal alcohol operations if of an international scope. The United States Secret Service tries to prevent counterfeiting, and provides various protective services including guarding the President and his family.

The United States Coast Guard, though a part of the Department of the Navy in wartime, is normally under the Treasury. It not only saves lives at sea, provides navigation aids, and sets safety standards for merchant ships, but also has major responsibility for port security and checking on the loyalty of seamen.

Department of Commerce

This is another department of interest to Intelligence. It contains the Bureau of Foreign and Domestic Commerce with a subordinate Office of International Trade, a major collector and processor of economic and commercial intelligence from the whole world. The Federal Maritime Board has to study foreign costs of ship construction and operation, and approve any international rate agreements that involve United States steamship companies. The Civil Aeronautics Board makes many studies of world aviation developments, and works closely with the International Civil Aviation Organization of the United Nations. The Patent Office collects and analyzes the official journals of all foreign patent offices. The Weather Bureau collects weather reports from all over the world to add to its domestic analyses. The Coast

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and Geodetic Survey collects data on United States territorial waters and on a number of overseas areas that are important to naval operations. The Bureau of the Census as a service agency manipulates data fed to it by government offices, and these include foreign trade statistics and international statistics in general.

Other Agencies

There are additional agencies. Some of the more obvious include: (1) the Office of International Labor Affairs in the Department of Labor, which watches developments abroad in use and behavior of labor and labor organizations; (2) the Office of Alien Property in the Department of Justice, which keeps track of foreign assets under our jurisdiction and possible trading with the enemy; (3) the Immigration and Naturalization Service, also in the Department of Justice, which watches for violations of immigration laws and maintains border patrols; (4) the Department of Agriculture's Office of Foreign Agricultural Relations which has attachés abroad to collect data and makes analyses of world-wide developments in agriculture; (5) the same Department's Bureau of Entomology and Plant Quarantine, which like the United States Public Health Service may be in the forefront of detecting biological warfare attacks upon the United States; (6) the Post Office Department's Bureau of the Chief Post Office Inspector, whose studies of postal law violations may turn up much information of intelligence interest; (7) the Department of Interior's Office of Territories and many special commissions and corporations which serve as sources of intelligence on our own territories; (8) the Federal Communications Commission, which tracks down clandestine radio stations and keeps

track of use of frequencies by transmitters both at home and abroad; (9) the Federal Reserve Board, which makes studies of international finance; (10) the Tariff Commission, which studies foreign costs, protective measures, and other restrictions; (11) the Smithsonian Institution, which collects and studies scientific data the world over, and its subsidiary International Exchange Service which trades scientific publications with foreign countries; (12) the Library of Congress, which also has exchange and collection functions; (13) the Office of Civil Defense with its physical security functions; and (14) such quasi-official or private groups as the National Geographic Society, which can send expeditions to remote places, and prepare finished maps based upon data collected, and the Bureau of Railway Economics, which also has very wide collection and processing facilities.

The above list, by no means exhaustive, indicates the variety of agencies that are in some way useful to Intelligence, although they are not intelligence agencies in the strict sense of the term.

In any review of United States Organizations for National Security it must be kept in mind that, in actuality, they are not inanimate spaces on a formal chart but rather living vital composites of many individuals each of whom is daily contributing his talents and energies toward the production of a total coordinated product. The best finished product is possible only when each individual contributor has a clear perspective of the total field of which he is a part so that his own efforts will blend effectively and harmoniously. Therefore, in order to aid the naval intelligence officer to carry out his assigned duties and responsibilities most effectively, the following chapter will be devoted to a consideration of the proper intelligence perspective he must have.

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CHAPTER 4

AN INTELLIGENCE PERSPECTIVE IN A CHANGING WORLD

The job of intelligence is "to winnow the extraneous data from the vital facts and to set these facts in proper perspective . . ."

This statement was made following World War II by Rear Admiral Roscoe H. Hillenkoetter in describing the function of intelligence to produce usable knowledge. Its key words, "proper perspective" aptly describe the central theme of this chapter.

Cause and effect, action and counter-action are woven into an unending pattern of conditions and situations which must be followed with infinite care the world over. The relentless continuity of events makes it impossible to consider them singly or outside their frame of reference. Military policies and international politics are interdependent and neither can be effective without the other. Similarly, the strategies of nations may begin and end within a period of war, or they may be conducted, with or without change, continuously between wars. The intelligence officer must be schooled in the field of international relations in order that he may develop a broad sense of world affairs and recognize the trends which will give the fullest meaning to emerging situations. In developing this sensitivity he must keep in mind the functions of intelligence, its past influence on world events, and the purposes of the various agencies which it supports.

In chapter 1 it was stated that Intelligence has three primary functions: first, to give warning of any hostile plans directed against a nation or a military force; second, to provide the knowledge upon which policies and plans can be based; and third, to counter the intelligence efforts of opposing nations. The very nature of military warfare maximizes the opportunity of Intelligence to predict the time and place of attack. The greater variables in time of peace, however, require Intelligence to evaluate with care the particular factors which may produce specific developments within certain periods of time. The importance of such evaluations was stressed by Maj. Gen. William J. Donovan when he said:

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"Government policy must be based upon a tested knowledge of the facts. What facts? The capabilities, the intentions, and the policies of other nations . . . (Intelligence is) just the careful gathering and analysis and interpretation of many bits of evidence."

The need for intelligence in time of war has been generally recognized; its importance in time of peace is still a topic of considerable argument among some political leaders and students of government. A British writer recently commented that, prior to World War II, intelligence seemed to have little purpose as long as the vital interests of the nation did not appear to be threatened. As late as August 1952, a well-known American, in describing United States intelligence organizations, remarked that they would be unnecessary if American relations with the Soviet Union were normal. This failure to understand the need for continuity in intelligence activity arises from a misconception of the terms "war" and "peace." Certainly they are not exclusive concepts. For example, it is almost impossible to pin-point the causes of wars and the exact times when each really began. Since basic national interests remain relatively the same, the transition from war to peace is merely a shift in emphasis on the means employed to promote those interests. Instead of military force, the means may be political, economic, psychological, or a combination of all three.

Likewise for intelligence the end of a war means only a shift in major interests. Instead of the numbers and movements of troops and ships, interest centers on the capabilities of new weapons, the acquisition of new strategic bases, and the development of new areas of political influence. Political machinations in the world's trouble spots, exploitation of markets for manufactured goods, and the control of strategic materials become subjects of concern. Knowledge of these matters may

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alter relationships and determine the attitudes of one nation toward another at international conferences or at meetings of the United Nations. Intelligence has the responsibility not only to acquire such positive information regarding other nations of the world, but also to perform its equally important function of preventing the disclosures of vital information and countering foreign espionage.

Consideration of the historical development in chapter 2 led to the conclusion that Intelligence has often influenced the outcome of military and political events which had world-wide repercussions. The intelligence officer, therefore, must be fully aware of the scope of his interests and the implications of his activities. The guerrilla warfare carried on by Lawrence of Arabia in World War I had a strategic significance out of all proportion to the size, area of combat, and equipment of his modest forces. The German agent, Wassmuss, held southern Persia under his personal influence and did much to prolong the British military campaign in that area. Early in World War II, a cipher clerk in the American Embassy at London provided Germany with vital diplomatic information passing between Washington and London. When his treachery was finally discovered, during the dark days of Dunkirk and the fall of France, all classified communications of the American State Department had to be suspended until new codes were prepared and distributed. The impact of this failure of counterintelligence was brought out at the Nuremberg trials when various Nazi leaders stated that the information derived through the American cipher clerk influenced their decision to curtail military activity during the winter of 1939-40 while they prepared for the spring offensive against France. The use of the Italian Embassy in London for the transmittal of this information may well have influenced Italy's decision to postpone her entry into the war for about ten months.

In the preceding chapter, the purpose of the discussion was to review the various government agencies responsible for planning and formulating the foreign policies of the United States and to describe their supporting Intelligence subdivisions. The Office of Naval Intelligence, as one of these subdivisions, contributes significantly to

the production of the total knowledge used as the basis for national policy decisions which guide relationships with other nations in times of war and peace. This knowledge is also a fundamental source of support to the military commander in the area of operations and to both military and political agencies at all levels in their efforts to oppose the intelligence activities of other nations. When used at the national planning level, this knowledge is called Strategic Intelligence; at the naval planning level, it is called Naval Strategic Intelligence, the importance of which to any nation depends upon the extent of that nation's sea power. At the operational level, this knowledge is termed Operational Intelligence.

To be emphasized is the fact that, regardless of the level or echelon by which intelligence is used, those engaged in its activities, whether military or civilian, cannot properly perform their duties without a comprehensive understanding of the world scene, from which is derived a clearer view of relationships between events wherever and whenever they occur.

As early as World War I, Brigadier General Marlborough Churchill, then Director of Military Intelligence, made this pertinent comment:

The reason why we have decided to study the whole world is that we believe it to be impossible correctly to predict the points which are going to be sensitive in the future, unless we take the trouble to find out the situation in all countries, and all the factors which go to make up an international situation. . . . If it is remembered that the assassination of an Austrian Prince in 1914 started a conflagration which our Army was called upon to play a major part in extinguishing, it will be seen that MID is not doing its full duty if it does not attempt correctly to record and promptly to bring to the attention of the proper authority everything that is going on in the world.

He also made the observation that, prior to World War I, Regular Army officers tended to limit their interest and training to matters of specific military content.

We failed to realize that it is the duty of every Army officer to follow the example set so many years ago by the Navy, and make himself not only a fighting man, but also a well-informed man of the world.

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Important contributory elements which are the basis for a clear and proper perspective for intelligence personnel include an understanding of basic national interests and objectives, a knowledge of the place and meaning of strategy and the resulting foreign policy, and an appreciation of the ultimate purposes of operational activities to implement both strategy and policy. The intelligence perspective cannot be static: it must be capable of rapid adjustment to changing conditions and altered circumstances. It must always be positive, with a clear and unbiased view of its own purposes and responsibilities. The following discussion of these elements, although by no means exhaustive, should serve to portray the perspective which all intelligence personnel must acquire if they are to perform their duties successfully. It should also serve to indicate the necessity for further reading and continuous study.

NATIONAL INTERESTS AND OBJECTIVES

In view of the vast amount of knowledge about the world and its peoples, guidance is essential if intelligence activities are to be economically concentrated. Normally, specific guidance emanates from higher authority, but it is important to recognize that ultimate guidance is provided by the fundamental national interests and objectives which must form the basis for national strategy and policy.

Our own national interests have never been more succinctly expressed than in the words of the Declaration of Independence: "Life, Liberty, and the Pursuit of Happiness"; other expressions represent only the means toward these ends. Over the years these fundamental interests have gradually been broadened to include the preservation of national independence, freedom from war and the threat of war, improvement in standards of living so that everyone may have the opportunity to earn an even better and more secure livelihood, and the maintenance of friendly relations with all peoples of the world.

From such interests come national objectives which include the protection of the American form of government and way of life at any cost from every challenge, the support of endeavors aimed at the peaceful resolution of all international problems, the encouragement of a healthy world econ-

omy, and the championship of nations threatened by any ruthless imperialistic aggressor. Embodied in these objectives are certain definite social values, such as those enunciated as the Four Freedoms by Roosevelt and Churchill. Of particular importance is the value of popular power which emphasizes the orderly process of making decisions through democratic participation.

Few can find fault with these interests and objectives; the problems lie in their interpretation and implementation. For many complex reasons interpretations vary between various social groups within the nation and the power of one group may permit it to dominate the expression of national objectives at a given time. Historically, the popular power value when applied to foreign relations has resulted in the implementation of the objective of national security through international law and organization, a sincere effort to deter aggressive nations from their intentions by bargaining and persuasion. In his book, *American Diplomacy, 1900-1950*, George F. Kennan has pointed out what appear to be not only certain theoretical deficiencies in this approach, but also the serious implications of its resultant theory of "unconditional surrender":

It is a curious thing . . . that the legalistic approach to world affairs, rooted as it unquestionably is in a desire to do away with war and violence, makes violence more enduring, more terrible, and more destructive to political stability than did the older motives of national interest. A war fought in the name of high moral principle finds no early end short of some form of total domination.

If our national objectives as they relate to the rest of the world imply a defense of free countries of the world so that they may remain free, there is the added implication of an ability to wage war when necessary. However, atomic warfare of the present and the future could well bring ruin to a degree never before experienced and with it the destruction of what the war was fought to protect. For this reason alone, national objectives must transcend the mere winning of wars; they must include the realization of the purposes for which war is waged. These purposes, when defined and understood, might well control the tactics, targets, and even the weapons used; even more, they might alter the concept of total victory.

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In the past, American objectives, expressed as abstract moral principles, have led to some misunderstanding and disappointment. In the present world crisis, there have been suggestions that they be more concretely defined: what are our specific objectives, our capabilities for reaching them, our plans for carrying them out? Various students of government have raised the problem of what they describe as an American tendency toward a negative approach to objectives; that is, expressing them in terms of opposition to those of another nation. They recommend a positive approach to objectives which might provide greater illumination and stimulation, not only to the American people, but also to the rest of the world.

To point out the problems in connection with the interpretation and implementation of national objectives is easy; to solve them is a matter infinitely more difficult. Dr. William L. Langer, long associated with government agencies concerned with national planning, has suggested the possibilities of a special staff, under the National Security Council, specifically charged with the long-range study of national objectives, together with provisions for the close exchange of ideas and coordination of action between the executive and legislative branches of the government. It is his belief that, by such means, greater unity of purpose and action might be achieved. Without question, clearly defined and well understood national objectives are fundamental to a national grand strategy aimed at encouraging our allies and discouraging our adversaries.

GRAND STRATEGY

As a term, strategy has long been associated with war as an art of military command, but as a result of the modern complexities of war and of the society from which it stems, the strategy of today has come to embrace many factors other than military: political, economic, technological, moral, and psychological. It has come to embrace activities of government and diplomacy aimed at the control and utilization of a nation's total resources, of which military forces is only one, for the purpose of promoting and protecting national interests against actual or potential enemies. The dimensions of modern strategy become even more profoundly impressive when groups of nations

band together for the promotion and protection of common interests. Simply defined, strategy is the basic pattern for employing instruments of power. In its broadest sense, therefore, it is known as grand strategy.

In chapter 1 *grand strategy* was defined as the master plan of a nation in both war and peace, including not only military planning but domestic and foreign policy as well. A more complete definition by B. H. Liddell-Hart is given in the Encyclopedia Britannica (14th edition):

Grand Strategy should both calculate and develop the economic resources and manpower of the nation in order to sustain the fighting services. So also with the moral resources—for to foster and fortify the will to win, and to endure, is as important as to possess the more concrete forms of power. And it should regulate the distribution of power between the several services, and between the services and industry. Nor is that all, for fighting power is but one of the instruments of grand strategy. It should take account of and apply the power of financial pressure, diplomatic pressure, commercial pressure, and, not least, ethical pressure to weaken the opponent's will. A good cause is a sword and a buckler. Furthermore, while the horizon of strategy is bounded by the war, grand strategy looks beyond the war to the subsequent peace. It should not only combine the various instruments, but so regulate their use as to avoid damage to the future state of peacefulness, secure and prosperous.

There are other terms with which the intelligence officer should be familiar in order to understand this element of the intelligence perspective more thoroughly. *Combined Strategy* refers to the common strategy of coalitions of nations. *National Strategy* is used interchangeably with strategy and grand strategy, while *Military Strategy* is a more restrictive term, denoting the art and science of employing the armed forces of a nation to secure the objectives of national policy by the application of force, or the threat of force. *Naval Strategy* is the result of planning for the effective employment of naval power in support of national objectives. Other military terms have been found useful in describing the activities of nations. *Strategic offensive*, *strategic defensive*, and *strategic initiative*—all defined in chapter 1—apply to nations as well as to combat units.

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Interrelationships of Military and Political Factors

The interchange of vocabulary is but one indication of how closely interwoven the military and political factors of our Nation's strategy have become. Another indication is the reliance placed on the opinions of the Joint Chiefs of Staff by the Chief Executive and by the National Security Council, and the fact that the nation's military leaders are included in consultations involving top-level planning in many areas which are not directly of a military nature. As shown in the preceding chapter, Congress has officially recognized the role of the military forces in connection with national strategy.

World conditions, of course, have exerted a tremendous influence in bringing about this situation in the United States. Specifically, the emphasis on force and the threat of force in the foreign policies of the Soviet Union has strongly affected the international relationships of nations. The problem of Korea provides a good illustration of the interplay of military and political factors. As early as 1947, \$540,000,000 in military aid for South Korea was proposed. When the Soviet Union suggested a conference on Korean unity, the United States State Department dropped the military aid program. Later, when the U. S. S. R. took the strategic offensive and formally withdrew from Korea, leaving behind a trained North Korean Army, the United States had no alternative but to withdraw also, leaving no comparable army behind. When South Korea was invaded in the summer of 1950, it was the State Department, not the Department of Defense, which encouraged military support of the South Koreans. Having committed military units to Korea, the military leaders found their planning sharply circumscribed by strategic political considerations.

Admiral Mahan set forth the proposition that "The strategist is he who always keeps the objective of the war in sight and the objective of the war is never military and is always political." In the past, the leaders of American military forces have tended to overlook this dictum, undoubtedly because of the meritorious, long-established, and deeply-rooted American conviction that overall civilian control of the Nation's military forces must be maintained at all costs.

The Military Point of View

The American military mind in the past has concentrated on the military factors involved in achieving victory and avoiding defeat; it has not associated itself officially with a consideration of the political implications of victory or the political situations which might lead to further conflict. As a result, when called upon, it has tended to concentrate on the use of direct, overpowering force to accomplish its objectives, leaving to other agencies the considerations of other means to carry out strategic plans.

The developments following World War II, however, have had a profound effect on the thinking of both military and political leaders in the United States. It has become apparent that throughout that war the Soviets were guided in their strategic military planning by their postwar political objectives. For example, it has been suggested that Soviet insistence on committing Allied forces in Italy to an invasion of southern France was based primarily on an effort to keep them out of the Balkan countries. As a result, there were no substantial British or American military units in Romania, Bulgaria, and Hungary to retard the extension of Soviet control over those countries in the postwar period. The military objectives of the Korean war from 1950 to 1952 were obviously limited by broad political considerations.

The American system of government and way of life will always assure civilian control of its military forces. The military themselves will be the first to reject any suggestion that they assume leadership in formulating national strategy and directing foreign policy. Since, however, our military leaders are involved in national strategy, they must be thoroughly conversant with all the political factors in order to contribute effectively to overall planning for the welfare and security of our Nation.

Basic Considerations in the Formulation of Strategy

Four concepts should be basic in the thinking of all those responsible for planning national strategy. The first is that modern strategy is global. The interdependence of all parts of the world has increased to the extent that a changed condition in one area is quickly felt in many others. The

Soviet "war by satellite" strategy has made clear the fact that many widely separated parts of the world are vital to our national security; while Stalin's comment that victory in Europe may first be won in Asia gives added significance to the drain on the military strength of France caused by the situation in Indo-China. An appreciation of this concept can serve as a constant warning not to concentrate on the security of one area without a full awareness of the possibilities of weakening the security of another.

The second concept is that international relations are unstable; hence the strategic planner must be prepared to adjust rapidly to the probabilities of change, perhaps even radical change. American relations with the Soviet Union, changing from allies in World War II to adversaries in the postwar period, illustrate the validity of this concept. It should be remembered also that the United States and Great Britain have not always been allies. The situation in postwar Europe demonstrates all too well the instability and delicate balance of relations between countries: an unfavorable resolution of internal conflicts within Germany, France, and Italy might sharply alter our relationships with those countries; and certainly the position of Yugoslavia has changed radically in a few short years. The Communist purges in the Soviet satellite countries during 1951 and 1952 might indicate that the Soviet Union has not yet achieved complete stability in its relations with its involuntary associates. The significance of this concept is two-fold: fixation on a particular situation which exists at any given time can distort the evaluation of developing events and throw long-term planning off balance; strategic planning must be dynamic, sensitive to indications of change, and prepared to take the initiative as changes occur.

The third concept is that of consistency to principle. American goals and ideals have long been a source of inspiration to all people of the world who see in the United States a land of opportunity and a haven from tyranny where freedom has real meaning for the individual. Consistency in the championship of human liberty, wherever it is sought, is essential to any long-term success in strategic planning; inconsistency contains the seeds of self-destruction. In itself, this concept

poses some exceedingly difficult problems in a world where force is a constant threat. However, simply stated, it means that those responsible for national strategy must never lose sight of basic national objectives.

The fourth concept is that the various means available to strategy are employed in varying degrees at all times to strengthen the master plan of one nation while restricting the plans of another. The availability of military force is a factor which constantly affects the formulation of strategies, as is illustrated by the effect of the postwar activities of the Soviet Union in Europe and in Asia. Diplomacy, which pursues a more peaceful approach to the solution of world problems, endeavors at all times to win friends and to create conditions favorable to its own objectives. Economic power is exerted to strengthen and to destroy. In postwar Europe, the United States has used its economic resources to restore war-ravaged countries; while at the same time, in China, it has employed this power to weaken the Communist controlled government. Similarly, the sociological instruments of emotion and culture are being exploited by opposing forces all over the world, on the one hand to build and on the other to tear down. In more recent years, science and technology have become powerful weapons; the atom bomb alone has played a significant part in the planning of world strategies.

The essential point of this concept is that war and peace are relative terms and that no wise strategist can consider them to be mutually exclusive with particular instruments appropriate only to one or the other. Such a point of view might lead to the sacrifice of long-term objectives for short-term advantages. A keen appreciation of this concept can immeasurably strengthen a nation's grand strategy by permitting the skillful employment of all available instruments in the right degree at the proper place and time.

All of these concepts can be reduced to the simple fact that strategy must be based on realities, and hence requires the availability of all pertinent knowledge. The approach to this requirement involves: first, a continuous awareness of the unknown factors and an effort to uncover them; second, a full appreciation of the known factors and their realistic application to the solu-

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tion of the many problems of planning; and third, the conscientious use of logical reasoning.

Success in the formulation of strategy is achieved when the resultant policies are so integrated with available instruments that war becomes either unnecessary or is undertaken with the optimum assurance of victory.

POLICY IN FOREIGN AFFAIRS

The net product of grand strategy, which is based on national interests and objectives, is called "policy"; when that policy concerns relationships with foreign countries it is called "foreign policy." Obviously policy cannot be established in the best interests of a nation without a great deal of careful advance study and planning; thus it represents the last step in a nation's strategic planning process and gives expression to its master plan. Foreign policy is that element of the total plan, developed from experience and knowledge, which aids in the conduct of government business with other governments.

In the postwar period there has been a notable growth of popular interest in American foreign policy, and much has been written on the subject. There has been criticism of certain aspects, such as the lack of realism, the absence of continuity, and excessive improvisation. In his book, *The Road to Foreign Policy*, Hugh Gibson, a long-time career diplomat, refers to the "Open Door" policy in China, "Dollar Diplomacy," and the "Monroe Doctrine," among others, as "fragments of foreign policy" and suggests that some American foreign policies "can be described not too unkindly as hobbies of successive secretaries of state."

From such discussions and criticisms it may be concluded that a real need exists for a better understanding of what foreign policies are, the processes from which they are derived, and an expression of the policies themselves in language unmistakably clear, with no possibility for misinterpretation. Such an understanding is aided by a recognition of the fundamental characteristics and qualities which all policies should have.

Foreign policies are rooted in the historical background of nations; they develop gradually, are the result of objective thinking, and have qualities of stability and permanence. They never

spring suddenly into being and can seldom arise out of the emotional excitement of the moment. George Washington, in his Farewell Address, was encouraging the idea of objectivity when he warned against "passionate attachments." In discussing basic policy in his book, Mr. Gibson comments that, in the light of subsequent events the post-World War II policy of the Allies to destroy the power of Germany was not a true policy because it was emotionally conceived and lacked the quality of objectivity. The term "policy" should be applied only to something that is fundamental and of a long-range nature; it should not be confused with tactical devices used to implement the basic plan. The Marshall Plan, for example, has been merely a device for implementing a basic policy of denying the control of Europe to one aggressor nation. However, it gives continuity to that policy and should not be misunderstood as an improvisation.

Obviously, a policy is never one-sided; it always involves other nations and other peoples who have much to do with its effectiveness or ineffectiveness. The success of the balance of power policy in Europe depends upon the whole-hearted response and cooperation of various countries participating in the Marshall Plan, the North Atlantic Treaty Organization, and the European Defense Community. The success of any policy depends also on the high caliber of those responsible for its administration, their training, experience, and sensitive perception of its many aspects and implications. The measure of success should never be gauged by spectacular immediate results, because the results achieved over a period of years are often much more significant. Since a policy must be judged on a long-term basis as it grows and develops, it cannot always be evaluated at a given time; rather, the degree of its effectiveness will be demonstrated by the manner in which it influences subsequent events.

Since a true basic policy grows out of national objectives which are the common interest of all groups within a nation, it does not represent a partisan point of view. On the other hand, the implementing tactics or devices may well originate from the elected representatives of the people in control of the government at a given time. Finally, all policies are not of equal importance.

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The defense of American policy in China, for example, would not elicit the same immediate response as the defense of our policy to protect the Western Hemisphere from aggression.

A review of common characteristics should lead to the conclusion that foreign policies are the result of long-range planning and that shifting relationships between nations will affect their execution, so that adaptability is essential to successful operation. An understanding of these characteristics should do much to sharpen the intelligence perspective in identifying the broad patterns of policy, often obscured by tactical devices which are no more than implementations. Even more, it becomes apparent that the successful execution of policy requires at every step a great amount of knowledge and a full appreciation of cause and effect relationships.

While the instruments of policy and strategy are the same, it must be reemphasized that they are the machinery through which policies operate and that their effective use is necessary if any policy is to have real meaning or ultimate value. Diplomacy and military forces are two basic instruments whose significance merits further consideration. Diplomacy is not a function limited to the diplomatic service. It is carried on through any official or unofficial activities which affect foreign relationships such as: a restrictive tariff act or a generous foreign aid measure passed by Congress; the movements of the 6th Fleet in the Mediterranean; the behavior of American citizens, military or civilian, in a foreign capital; formal addresses or off-the-cuff remarks by high Government officials. It is true that the diplomatic service itself must be a highly trained body of devoted men and women capable of administering policy wisely in a confused and troubled world. At the same time, public opinion has much to do with diplomacy as an instrument of policy; the more enlightened it is, the more advantageously effective it can be. The importance of this instrument is self-evident; its failure results inevitably in war.

Military forces are not only an exceedingly important instrument of policy, but also affect policy directly or indirectly. United States Army occupation and control in Germany, for example, will have an effect on American policies in Europe for many years, and likewise our occupation and

subsequent retention of military bases in Japan have given a definite pattern to American policies in the Far East. Close coordination of military and political policies, therefore, becomes essential to the national interest. To be remembered also is the fact that military power as an instrument of policy must be adequate to support that policy; further, that the knowledge required to determine what constitutes adequacy must be supplied by an effective intelligence service.

THE ROLE OF INTELLIGENCE

Since modern nations can scarcely afford to maintain military forces sufficient to meet all eventualities, the production of knowledge from which to determine adequacy becomes a contribution of major consequence. Intelligence can also have great value in helping to compensate for certain deficiencies in military instruments available to carry out strategy and policy. Prior to World War II, one of the German military theorists, Captain von Gadow, recognized this value in an article prepared for *Militaerevessenschaftliche Rundschau*:

We must be far-sighted in our policies. The next war will depend on the success or failure of the great sea powers. Germany is not and cannot become a great sea power. But we can protect certain interests by erecting efficiently working outposts which would have to fulfill highly important tasks in the sphere of naval strategy and may also often play a decisive part in our foreign policy . . .

In evaluating the military factor, Intelligence must inevitably assess the relevant political, economic, psychological, moral, and technological factors. In so doing, it produces knowledge which can be used as the basis for the successful employment of these additional factors in total war.

The preceding discussion of the planning of strategy and the formulation and execution of policy has indicated the quantity and scope of knowledge required. It has also suggested in general terms the necessary breadth of the intelligence perspective. A review of some of the strategies, policies, and tactical operations of Germany, Japan, and the Allied Nations before and during World War II and of the Soviet Union afterwards will more specifically illustrate the vital

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role played by Intelligence and the perspective its personnel must have in support of that role. During this review it will be well to keep in mind the intelligence organizations developed by these nations as described in the latter sections of chapter 2.

GERMAN STRATEGY BEFORE AND DURING WORLD WAR II

The grand strategies of the Axis powers were formulated separately in the 1920's and were implemented and combined in the 1930's. Their tenuous roots may be traced to Mussolini's march on Rome and his establishment of the first dictatorship; the Japanese fortification of their newly acquired Mandated Islands in the Pacific; and Hitler's dramatic presentation of himself and his scheme for world conquest in *Mein Kampf*.

When Hitler became Chancellor of Germany in 1933, Nazism was established as a political and military force and secret preparation for war was begun. Germany, however, did not take the strategic offensive in the international arena until 7 March 1936, when she reoccupied the Rhineland. A year earlier Italy had taken the strategic offensive when she moved against helpless Ethiopia. By 1936 Hitler had created the "Rome-Berlin Axis" and, with Mussolini, had intervened in the Spanish Civil War for the purpose of testing new weapons and tactics, to say nothing of further undermining the stability of that country. By 1936 he also had evolved and put into action the new Nazi strategy, which utilized not only military but also economic-political-psychological means. Because he held the strategic initiative, Hitler was able to a large extent to predict and determine the course of events.

In the period from 1936 to 1940 it became increasingly clear that the grand strategy of the Nazi regime was territorial aggrandizement by means short of war, and the forging of armed might against the day when conflict with major powers could no longer be avoided. During this period Mussolini played second fiddle to Hitler; his ambition was perhaps not so grandiose, and certainly his resources were not comparable. He basked, however, in the reflected glory of the Nazi state as it gradually assumed hegemony over one European country after another from 1938 to 1940.

Hitler's spectacular successes were in large measure due to his "combined strategy" which adapted grand strategy to the purposes of a ruthless dictatorship in which total mobilization could be enforced immediately for the waging of total war.

That the Nazi grand strategy was truly global in scale, and was directed, among other objectives, at gaining a foothold in Latin America, was recognized in 1942 by Hugo Fernandez Artucio, who wrote in his "The Nazi Underground in South America":

An undeclared war is being waged in Latin America today against the democratic institutions and the independence of the New World Republics. The war is being conducted with fearful efficiency by the soldiers of the Third German Empire, who have been distributed by the thousands throughout the political underground of this continent. They are the agents of Adolph Hitler, whose mission it is to put into practice here, as in Holland and Belgium, Czechoslovakia and Norway, Austria and France, the principles of totalitarian warfare. In this concept of war, actual armed invasion becomes merely a link in a long chain of underground preparation . . .

A political scheme of international implications has been set afoot on the American continent . . . Its object is to set up a government as nearly like the totalitarian regime as possible, and the method employed is "the war of nerves." Its creators know, with Machiavellian cunning, the political function of fear.

Nazi strategy was ably supported by the worldwide German Intelligence Service, the concepts of which were broadened in order to implement new and revolutionary methods of warfare, such as the "blitzkrieg," the "war of nerves," and the "fifth column." The effectiveness of German Intelligence in contributing to Nazi strategic purposes in Spain is described by Hansjürgen Koehler in his book *Inside the Gestapo*. The particular device used was the Hagenbeck Circus which was sent to Spain to roam the countryside for months. Gestapo agents were included among the large numbers of circus employees. With this excellent "cover," these agents had little difficulty in obtaining a great variety of important information. This circus also provided a means whereby Nazi propaganda could be distributed with little or no

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difficulty. As a result of the Nazi intelligence effort in Spain, anti-German elements were almost completely eliminated, Germans residing in the country were enlisted as collaborators, and vital strategic data on Spain was collected.

Tremendous sums of money, estimated at \$200,000,000 annually, were allocated for intelligence purposes, including the creation of fifth columns and the conduct of propaganda activities. Such expenditures were possible because of the Nazi planned economy in Germany, and, from their point of view, it was money well spent—except in England and the United States.

Although the ruthless aggressions of the Axis powers were in open defiance of existing treaties and international law, the western democracies were impotent, and could only helplessly observe the progress of events. For some time Hitler was not taken seriously, certainly not by Ramsay MacDonald and Stanley Baldwin, although as early as 1934, Winston Churchill had begun to issue solemn warnings of the new peril which was taking shape beyond the Rhine. Thus England remained on the strategic defensive, and Neville Chamberlain's policy of appeasement did not improve the situation. England was not alone, however, for the other democracies shared this unfavorable position.

One problem was that England and France were getting very little intelligence out of Germany, because it was a part of the Nazi strategy to infest the homeland with armies of counterspies, to punish betrayal of military or industrial secrets by well-publicized beheading, and to employ torture and execution to stamp out disaffection whenever and wherever detected. But a greater problem was lethargy in the British Government and corruption in the Government of France which prevented the right kind of action from being taken in response to such intelligence as was received regarding the German rearmament.

As can be seen, the advantage of strategic initiative, and hence the advantage of surprise, lay with the totalitarian states dedicated to world conquest. Innumerable acts of aggression, almost imperceptible at their inception and fully identified only after they were accomplished facts, were carried out in times of ostensible peace by scores of fanatical and capable agents. Powerful nations

were lulled by skillful propaganda into a false sense of security; while others, less powerful, were threatened, coerced, and attacked. The Axis powers sought to change the existing world situation to one more favorable to themselves and, up to a certain point, each succeeded remarkably well.

Failures in German Strategy

The period up to and including the fall of France was characterized by brilliant Nazi successes; thereafter, when Hitler was forced into war with both England and the United States while still embroiled on the continent of Europe, Nazi blunders were the order of the day. Of particular interest are the failures in strategy which led to failures on the field of battle and on the diplomatic front. The publication of war histories, memoirs of key political and military figures, the texts of hitherto top secret international agreements, and "post-mortems" obtained through the interrogation of high-ranking prisoners of war, all shed light on different facets of German planning and strategy. The "post-mortems" are very illuminating although compensation must be made for personal bias.

There is evidence that no war with England or the United States was contemplated by the German High Command during the period of initial Nazi successes. An essay by Admirals Schniewind and Schuster includes this statement:

A war on such a tremendous scale—or even with England—was in 1939 quite beyond the range of the preparations and intentions of the Government. But the policy of the Government and its political negotiations did not make any provision for this idea, as subsequent developments showed. They completely failed to realize the determination on the part of those who were later to become her enemies to declare war in the event that Germany carried out any further activities similar to the occupation of Austria, Sudetenland, or Czechoslovakia. Germany, her armed forces and especially her navy, were thereafter taken unaware and had to enter the war inadequately equipped.

Additional evidence is found in an article by Vice Admiral Hellmuth Heye, entitled, "From Panzerschiffe to E-Boats:"

Foreign politics were of particular importance from the naval point of view. The re-

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lease of Germany from the Versailles Treaty . . . was . . . a hopeful development. Admiral Raeder, in common with all the best naval opinion, held the view that the war of 1914-18 was lost as a result of Anglo-American sea power. The land decision was only a result of Anglo-American superiority at sea. The Navy therefore held the view that the waging of modern warfare is only possible, especially in the air age, when there is no determining enemy superiority at sea. Naturally all the necessary conditions appertaining to the use of the sea in an essentially continental country like Germany were difficult to achieve. From the top downward all important offices in the Ministry of War and in the air arm were occupied by persons who were essentially land-trained. The Navy found it impossible to introduce qualified officers into either the Air Ministry or the War Ministry.

Naturally this state of affairs could not but have an influence on the decision taken on all questions connected with the sea and sea warfare. Nevertheless, every effort was made on the highest level to avoid under all circumstances hostilities with England. This hope, as I see it, remained up to the very day of the declaration of war by England. There is no better evidence on this than the fact that until close up to the outbreak of war, I believe 1938, the Navy was expressly forbidden to study or consider the problems presented by a war with England.

This almost incredible failure in German basic planning was to have costly results in 1940 when the opportunity arose to invade the long-invulnerable British Isles. Detailed plans for Operation Sealion had been prepared and were ready to be put into effect, but Nazi strategy had failed to foresee and prepare for this opportunity, and Germany lacked the necessary landing craft and other naval units to carry out an invasion. Air power and land armies had been highly developed while sea power had been neglected. This crucial error in strategy seems to have resulted in part from a failure of German Intelligence to predict in advance the psychological factors which would make England a belligerent. Even this error might have been counterbalanced by a skillful diplomatic effort directed toward gaining and preserving an attitude of neutrality in England, but the Nazis lacked this capability and Hitler's personal short-

comings were reflected in the conduct of his foreign policy.

The first major error in strategy involved Hitler in a land war and a sea war simultaneously and prevented him from mounting an invasion of England in her weakest hour. A second, equally serious, resulted in an all-out offensive against the U. S. S. R. in the winter of 1941-42. The land war now had to be fought on two widely separated fronts, a situation particularly dreaded by the members of the German General Staff. From the very first, Hitler underestimated Soviet strength and miscalculated Soviet intentions. Interesting comments on these failures in strategy were made by Colonel Gottschling, Chief of Staff of the German Air Staff in Italy, during interrogation:

Hitler's "idee fixe" was to wage war against Russia. The failure to invade Great Britain, the ever-increasing amount of aircraft Britain was receiving from the United States and Germany's ever-increasing number of aircraft losses served to spur Hitler on and in his obsession drove him to attack Russia.

Luftwaffe fighter and bomber units needed in western Europe were dispatched to Bulgaria, Rumania, etc. Hitler overruled every objection of the General Staff with his gift of persuasion. . . .

I would summarize Germany's war mistakes as follows:

- a. Overestimation of England's ability to resist invasion.
- b. Underestimation of Russia.
- c. Overestimation of Germany's allies, such as Italy.
- d. Our failure to treat France as an equal and obtain full use of the wealth and resources of the French colonial empire. This could have been a stepping stone for the invasion of Great Britain.
- e. Declaring war on America. The High Command should and must have known that America's entry into the war meant Germany's defeat.

—Defeat, Headquarters Army Air Forces, January 1946.

A theme which reappears time and again in the various "post-mortems" is the disastrous result of Hitler's personal and complete control over German grand strategy, particularly after the war began. Colonel Gottschling stated:

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I have seen the most brilliant and determined men of my acquaintance go before Hitler, determined not to acquiesce to his whims. These brainy and critical men returned fascinated and for weeks remained under the spell of Hitler's charms or hypnosis. Thus, Hitler exercised his influence on his General Staff.

Vice Admiral Heye is quoted again in this connection:

During the preparations for the operations in Norway I was only once present at a conference with Adolf Hitler. In the course of this he emphasized the importance of the occupation of Norway for the whole conduct of the war and said he was the only man who could assume responsibility for such an operation. In the course of the war, as is well-known, he on many occasions acted against the advice of his military chiefs and sometimes he met with successes. This fact may have caused him and many officers to regard him not only as a statesman but also as a superior general in the field. His intervention in military operations grew at all events noticeably more pronounced.

The German High Command progressively lost its freedom to reach military decisions of a strategic nature; more and more these were made by Hitler himself on the basis of "intuition." It would appear that the major errors already listed, and some of their far-reaching consequences, might have been avoided if Hitler had been persuaded from exercising complete control over German grand strategy, and if more comprehensive and more accurate intelligence had been available to the High Command. Fortunately for the Allies, much of the information collected by the Nazis was unreliable and inadequately processed; even more, either the resulting intelligence was not disseminated to those who needed to know, or, if disseminated, was not used. Strategy, when formulated by one individual on the basis of intuition rather than fact, cannot fail to reflect not only the brilliance but also the faults of that individual. Further, when faulty intelligence is involved, the errors are compounded and magnified.

Other errors in German strategy included the failure to bring Spain into the Axis camp, a lack of appreciation for the advantages of joint operations in battle, and miscalculation of the enemy's total industrial capacity. Regarding the latter two, General von Senger was most outspoken:

The General Staff failed to understand the modern idea of warfare. It still thought in terms of Nineteenth century land battles, whereas we should have had a combined staff like Italy. Our General Staff was primarily occupied with army strategy rather than co-ordination with the navy and air force. . . . The tragedy of the General Staff is historical rather than military. It saw its enemy in the Allied field soldier—whereas the real enemy was Allied industrial capacity far beyond the front, out of reach of bombs or the range of artillery.

—*Defeat*, Headquarters Army Air Forces, July 1945.

The turning of the tide against the Germans is generally agreed to have occurred in the fall of 1942 when the Allies landed in North Africa and went on to defeat Rommel and to invade Italy. The Allied advantage lay in the important element of surprise, not only in tactics, but also in the employment of many new types of landing craft and weapons. Initial military success led to a major political triumph, the fall of Mussolini. The way lay open to the "soft underbelly of Europe," but the Allied strategic initiative in the Mediterranean theater, except for long-range bombing of the Rumanian oil fields, dwindled in the face of stubborn German resistance and difficult terrain. Elsewhere in Europe, however, the success of air operations from bases in England, and the advance of Soviet armies following the defense of Stalingrad, gave the Allies the strategic initiative on both western and eastern fronts.

Meanwhile, in the Atlantic, the strategic offensive maintained by Nazi submarine warfare was reduced to the defensive, and as the situation became more desperate it should have been apparent to Hitler that victory was beyond his grasp. The landing in Normandy, the devastating sweep through France, and the junction with Soviet forces in Berlin were but the final stages of successful Allied grand strategy in Europe.

Japanese Strategy Before and During World War II

Japan took the strategic initiative on the mainland of Asia on 18 September 1931 when she arranged the Mukden Incident as a pretext for the invasion of Manchuria. Thereafter, she became deeply involved in a land war in China. However, unlike Hitler, who initially at least had a

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healthy respect for the military and industrial potential of the United States, the Japanese completely underestimated America's war-making capability and deliberately provoked a conflict.

The attack on Pearl Harbor exploited surprise, the range of carrier task forces, and the power of aircraft to sink surface vessels. Not only did it surprise the United States but also Nazi Germany, for it now appeared that Japan was determined to fight her own war independently, without more than a perfunctory liaison with the Third Reich. Thus an early failure of the combined strategy of the Axis powers was the lack of effective coordination—a problem which continuously plagued the German High Command.

The final decision of Japan to make war, reached with the full concurrence and active consent of Japanese military and civilian leaders, was based upon the following evaluation which is very well presented in the *Summary Report (Pacific War)*, published by the United States Strategic Bombing Survey:

a. The threat of Russia on the Manchurian flank had been neutralized by the decisive victories of Germany in Europe which might eventually lead to the complete collapse of the Soviet Union.

b. Great Britain was in such an irretrievably defensive position that, even if she survived, her entire war-making potential would be spent in a desperate attempt to protect her home islands.

c. The forces which the United States and her Allies could immediately deploy in the Pacific, particularly in the air, were insufficient to prevent the fully trained and mobilized forces of Japan from occupying within 3 or 4 months the entire area enclosed within a perimeter consisting of Burma, Sumatra, Java, northern New Guinea, the Bismarck Archipelago, the Gilbert and Marshall Islands, Wake, and from there north to the Kuriles.

d. China, with the Burma Road severed, would be isolated and forced to negotiate.

e. The United States, committed to aiding Great Britain, and weakened by the attack on Pearl Harbor, would be unable to mobilize sufficient strength to go on the offensive for 18 months to 2 years. During this time, the perimeter could be fortified and the required forward air fields and bases established. So strengthened, this perimeter would be backed

by a mobile carrier striking force based on Truk.

f. While the stubborn defense of the captured perimeter was undermining American determination to support the war, the Japanese would speedily extract bauxite, oil, rubber, and metals from Malaya, Burma, the Philippines and the Dutch East Indies, and ship these materials to Japan for processing, to sustain and strengthen her industrial and military machine.

g. The weakness of the United States as a democracy would make it impossible for her to continue all-out offensive action in the face of the losses which would be imposed by fanatically resisting Japanese soldiers, sailors, and airmen, and the elimination of its Allies. The United States in consequence would compromise and allow Japan to retain a substantial portion of her initial territorial gains.

Most of this evaluation was incorrect, because it was based on faulty intelligence.

At the very outset of the Pacific War, therefore, the seeds for Japan's eventual defeat were sown. She was unable to comprehend or to predict those psychological and moral factors which bolstered the Allied cause in a time of severe trial and misfortune. Since the Japanese concept of the state involved ruthless tyranny and the complete subjugation of the individual, she was also unable to appreciate the power potential of the Allies in obtaining a supreme voluntary effort from the individual, whether on the field of battle or on the production front. Individual response to a noble cause is one of the great strengths of a democracy. Before a democracy fights, however, the enemy has usually gained the strategic offensive.

The magnitude of their early successes at Pearl Harbor, in Malaya, in the Philippines, and at Wake, Guam, and Rabaul, encouraged the Japanese to commit an outstanding error in grand strategy—expansion beyond the perimeter originally planned. The nature of this new plan and its inherent weaknesses are also described in the *Summary Report (Pacific War)*:

Accordingly, a new plan was approved, providing for (a) an advance into the Solomons and Port Moresby, to be followed, if successful, by a further advance into New Caledonia, Samoa, and the Fiji Islands; (b) the capture of Midway; and (c) the temporary occupation of the Aleutians. Accomplishment of such a program would cut the line of com-

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munication between Australia and the United States, reduce the threat from Alaska, and deny the United States all major staging areas more advanced than Pearl Harbor.

By stretching and overextending her line of advance, Japan was committed to an expensive and exacting supply problem. She delayed the fortification of the perimeter originally decided upon, jeopardized her economic program for exploiting the resources of the area already captured, and laid herself open to early counterattack in far advanced and, as yet, weak positions.

It should be pointed out, however, that this new plan was partially successful; for example, significant strategic gains were achieved by the temporary occupation of Kiska in the Aleutians. The United States was immediately placed on the defensive in an area from which it had planned to take the offensive. The Japanese action denied to the United States Fleet advance bases for operations in the northwest Pacific and the Bering Sea, from which aerial reconnaissance could be maintained over the northernmost Japanese Islands. Furthermore, it was a threat to the shipping routes between the west coast of the United States and the east coast of Siberia; it endangered sealing and fishing in the Bering Sea, and imperilled the northwestern area of Alaska. The influence of Japanese technical intelligence on this decision to move into the Aleutians is indicated by the following quotation from the United States Strategic Bombing Survey (Pacific):

In Commander Hashimoto's opinion the Japanese move into the Aleutians was conceived as a flanking operation to the occupation of Midway. Once Kiska and Attu were occupied it was decided to hold them for the purpose of blocking a United States amphibious advance toward the Empire via the Aleutian Chain, and also to deny the use of the western Aleutians as bases from which long-range bombers might operate. He said that the Japanese were aware in the latter part of 1942 that the United States had plans for a high altitude, long-range bomber, and, in about February 1943, had information concerning the B-29. This information was later confirmed in a radio broadcast by an American general. He went on to say that the B-29 appeared in operation 8 months later than the Japanese had estimated it might appear. When Attu was re-taken by the United

States, the Japanese expected long-range bomber operations from Massacre Bay.

—Interrogations of Japanese Officials (Vol. I)

The operation launched against Midway, also a part of this new plan, was far from successful. In fact, in the words of Captain Tsuda:

The Battle of Midway was the beginning of the Japanese failure in the war, I do not mean that this was the decisive battle of the war, but the loss of our carriers and some of our best pilots and officers affected us throughout the war. It called for the reorganization of the carrier divisions and the Naval Air Force in general. Due to the loss of ships we were unable to meet the Americans in force in the Solomons.

—Interrogation of Japanese Officials (Vol. I)

United States Strategic Bombing Survey (Pacific)

The explanation for this fatal error to expand the original perimeter may be found in the comments of Admiral Toyada, one of her top naval leaders:

I think the decision to expand the area of operations so widely might be attributed to a feeling on the part of the Japanese authorities at the time that the state of mind under which you fought the war and the state of mind under which we fought the war were very different, in that to us this was the war for our very national existence, whereas in your case it was merely a case of national honor or perhaps protection of your economic interests in the Far East; and, because to you the war under such conditions would be of relatively slight significance compared with ours, there might have been a feeling on the part of our leaders that, should the war continue a little longer, you would lose your will to fight, and with that idea we might have continued spreading the battleline.

—Interrogations of Japanese Officials (vol. II)

United States Strategic Bombing Survey (Pacific)

If this explanation can be accepted as authoritative, the cause for such a fundamental error in strategy was an incorrect understanding of the psychology of the American people. Here again inaccurate intelligence had repercussions of the first magnitude.

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Although the United States had early been placed on the strategic defensive, by the end of 1942 precarious footholds had been consolidated and reinforced in the southwest Pacific, thus upsetting the enemy's strategic plan. The Battle of Midway dealt a heavy blow to the Imperial Fleet, and the strategic initiative passed to the American forces. Thereafter, having ousted the Japanese from Attu and Kiska, the north Pacific units were employed as a holding and diversionary force, while the major Allied attacks were carried out by carrier task force raids, amphibious operations, and strategic long-range bombing always aimed at the final target, the Japanese home islands.

ALLIED STRATEGY BEFORE AND DURING WORLD WAR II

Allied strategy in its entirety during this particular period serves to illustrate two points: the tremendous ultimate value in coordinating the strategies of allied nations; and the long term effectiveness of strategy formulated in times of peace as well as war.

As has been mentioned, the grand strategy of the Axis was sharply divided, so that effective concentration of power against major objectives was never possible. On the other hand, the war effort of Great Britain and the United States was most closely coordinated. Varying degrees of coordination were achieved from time to time with the U. S. S. R., and with other Allied nations. Perhaps the outstanding feature of Allied grand strategy was the early implementation of the principle of combined British and American conduct of the war. Gen. George C. Marshall has commented on this feature as follows:

On December 23, 1941, Winston Churchill, Prime Minister of Great Britain, accompanied by the British Chiefs of Staff, arrived in Washington to confer with the President and the American Chiefs of Staff. Out of the series of discussions which then followed resulted an agreement, not only regarding the immediate strategy of our combined conduct of the war, but also for the organization of a method for the strategical command and control of British and American military resources. Probably no other Allied action, in the field or otherwise, has exerted as powerful an effect on the conduct of the war as the prompt establishment of a prescribed pro-

cedure for achieving unit of effort through the medium of the Combined Chiefs of Staff acting under the direction of the leaders of their respective Governments.
—Biennial Report of the Chief of Staff of the United States Army, July 1, 1939 to June 30, 1941.

The pooling of resources and ideas generated a total power which swept the Axis countries into defeat. This concentration of power also included the use of Army, Navy, and Marine Corps in joint operations, especially in the Pacific. Joint and combined intelligence activities contributed substantially to strategic planning. For example, the results of British experiments in photographic interpretation were made available to the United States, while air intelligence methods, and operating procedures aboard United States carriers were provided the British Fleet through special training and liaison arrangements. This mutual exchange at many echelons was invaluable to the combined allied strategy.

It has already been suggested that grand strategy is conducted in time of ostensible peace as well as in wartime. This is well illustrated by the fact that the United States began to cooperate with Great Britain in her war effort more than 3 years before Pearl Harbor, and was actually at war with Germany long before formal declarations were made. Arrangements for the exchange of destroyers for bases under 99-year lease agreements, the convoying of merchant shipping, and the American Lend-Lease program were all early indications of combined strategy and military planning.

NATIONAL STRATEGIES IN THE POSTWAR PERIOD

The events of the postwar period, which have their roots in past decades, will continue to influence the events of the future. The fate of the world, or of civilization as it is now known, continues to hang in the balance, years after the termination of World War II. Former enemies and former allies have united into new combinations in peacetime, striving to achieve their objectives. New strategies are being implemented and new pressures applied in support of them.

The confusion and turbulence in relationships between nations, both large and small, all over

the world, and the crises caused by many divergent often delicate situations, tend to obscure a clear view of national strategies. However, it is apparent that a dominant influence upon them has been the fact that only two nations emerged from the war with the full stature of major powers—the United States and the U. S. S. R. It is neither possible nor practicable to consider current events in detail, or to speculate on developments in the immediate future, but there are indications now which shed light on the postwar strategies of these major powers.

United States Strategy

In his book, *The Price of Power*, Hanson W. Baldwin presents an interesting discussion of United States strategy. His thesis is that in continuing to strive for the fulfillment of her objectives in support of democracy and a just and lasting peace for the world, the United States aims to preserve the political integrity of the "fringe-lands" of Europe and Asia in order to prevent the extension of Communist influence either to the Atlantic in Europe or to the East and South China Seas in Asia. This implies the restoration of a balance of power. There are, of course, many subsidiary aspects to this strategic purpose. Baldwin goes on to describe the United States as "home base" for operations with additional advanced and intermediate bases, both fixed and mobile, required because of the limitations of even the latest weapons of warfare. Okinawa is illustrative of a fixed base, while the United States Navy provides strategic mobile bases. Such a system of widely dispersed military bases becomes fundamental to strategic planning. Of equal importance is the development of "positions-in-readiness," that is, friendly and allied countries who can contribute to strategic purposes, both military and political. The necessity for advance military bases was discussed by Colonel Clifford J. Heflin in the *Air University Quarterly*, Fall 1947:

The idea of operating from home bases, without the burden of establishing and maintaining advanced and intermediate bases, would be welcomed by every Air Force officer, if it could be realized without paying too prohibitive a price. From the inherent characteristics of the airplane as developed during the last 40 years, however, it appears probable

that the price of such a method of operating will continue to be extremely high in the measurable future. Even if aircraft had attained the range necessary to launch bombing attacks from a distance of 6,000 to 8,000 miles, it would be likely to remain much more economical in materiel, and therefore more efficient, to operate from nearer bases, wherever they could be obtained . . .

If the coastal areas of Europe and Asia are of most importance in United States strategic planning, then the significance of both sea and air power, becomes readily apparent. The Atlantic and Pacific Oceans are American sea frontiers which must be protected, for only across them can the United States exert its strength, whether it be military, economic, or cultural. Strategic air power is expressed by planes, both land and carrier based, capable of transporting atomic weapons. Logistic superiority involves not only the American industrial system, but also the capacity of the United States and her allies to move their products throughout the world by means of superior sea power and merchant marine. Other aspects of United States strategic planning may well include an ideological offensive and a highly mobile military force capable of almost immediate retaliation against any aggressive action.

The Strategy of the Soviet Union

In his book, *The Strange Alliance*, John R. Deane, formerly a Brigadier General in charge of the United States Military Mission to the U. S. S. R., says:

In my opinion there can no longer be any doubt that the Soviet leadership has always been motivated by the belief that communism and capitalism cannot coexist. Nor is there any doubt in my mind that present-day Soviet leaders have determined upon a program pointed toward imposing communism on those countries under their control, and, elsewhere, creating conditions favorable to the triumph of communism in the war against capitalism which they consider to be inevitable . . .

The program of the Soviet leaders is being carried out with equal aggressiveness in two ways: First, by the introduction and compulsory acceptance of communism in those countries which the Soviet Union controls either by force or by the threat of force; and second, by the infiltration of Communist ideology into

those countries which, for the moment, are beyond the orbit of Soviet control. In between are some nations that are subject both to Soviet threat of force and ideological infiltration. Among these are Greece, Turkey, Iraq, and to some extent China. It is safe to predict that these countries will be subjected to a war of nerves which they will be able to resist only by the firm support of the western democracies . . . The program of infiltration is world-wide. It is evident throughout Latin America, Canada, the British Empire, Asia, and not least—the United States.

In attempting to achieve world domination the Soviet Union aims to exert pressures in many areas by many means in order to extend her political influence and to weaken her adversaries by causing them to overextend and to dissipate their strength and power. Subsidiary elements of her strategic planning include substantial military forces in being, the threat of attack with atomic weapons, propaganda and subversion.

In propaganda and subversion the Soviets have been highly successful. Their strategic purposes have been well served by the widespread employment of radio broadcasts to disseminate the communist point of view and to vilify the western democracies. The Nazi techniques of the "war of nerves" and the "fifth column" have been most effectively employed. Intensive effort has been directed toward the development of new weapons and electronic equipment, the large scale production of interceptor and long-range aircraft, and the expansion of a submarine fleet.

In attempting to combat the logistic superiority of the democracies, the Soviets have concentrated the production of their heavy industry on armaments. In addition, it is of vital interest to the U. S. S. R. to prevent the translation of America's tremendous war potential into actual strength. The tortuous course of the Soviet "peace" offensive seems to be directed toward this end. A potentially much more dangerous approach has been the suggestion of the availability of the Russian market for the sale of the products of foreign industry: a proposition particularly attractive to the business interests of the western democracies beset by economic problems and the urgent need for expanding foreign trade.

The Atomic Bomb

The successful adaptation of the principle of nuclear fission to war purposes has had a marked effect on national strategies in the postwar period. Just how marked the effect has been is a matter of personal opinion. Some writers have felt that the initial possession of the atomic bomb gave to the United States a dominant world power position. Winston Churchill, speaking before a Tory party conference in Wales in 1948, solemnly observed:

It is my belief—and I say it with deep sorrow—that . . . the only sure foundation of peace and of the prevention of actual war rests upon strength. If it were not for the stocks of atomic bombs now in the trusteeship of the United States, there would be no means of stopping the subjugation of Western Europe . . . If the United States were to consent, in reliance upon any paper agreement, to destroy the stocks of atomic bombs . . . they would be guilty of murdering human freedom . . .

In connection with the development of an atomic bomb, the strategic initiative was first held by Germany. It was the knowledge that the Nazis were engaged in intensive atomic research that prompted the United States to undertake its own program and to expend nearly \$2,000,000,000 in order to gain the strategic initiative in atomic power. Secretary of War Stimson considered the success of this program to be a great historical achievement attained through the integrated efforts of scientists, industrialists, labor, and military personnel. The fact that the United States alone possessed the atomic bomb was a great, if temporary, advantage and undoubtedly influenced strategic planning.

The announcement in September 1949 that there was evidence of a recent atomic explosion within the U. S. S. R. and subsequent similar announcements in 1951 have had a profound effect on national strategies and no longer does the United States have its unique power advantage. The part played by Soviet Intelligence in bringing about this change has been described in chapter 2. However, the development of tactical atomic weapons for offensive use in war makes the concentration of military forces or supplies extremely hazardous, and what was once a capability be-

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comes a vulnerability. Thus, the Soviet capability to mass large military forces is not now as significant strategically as it was prior to 1952. On the other hand, Soviet progress in the harnessing of atomic energy has been much more rapid than was expected and, even if the United States maintains its production lead, the time might come when the Soviet Union would have enough atomic weapons for an attempted knock-out blow against American industry.

Progress in the development of the hydrogen bomb represents a new factor in strategic planning, as do other scientific projects in related fields. As a result, the most detailed knowledge possible regarding scientific activities in the atomic age becomes a matter of great importance to grand strategy and represents a grave responsibility for intelligence.

Indications of Strategies in the Postwar Period

After 1945, disturbing reports from Soviet zones of occupation revealed that these areas were being drawn into the Soviet orbit along the typical lines of Communist-operated countries. The guarantees of free elections in the Balkan countries and the promise of the ultimate unification of Korea were brushed aside. Red Army garrisons were reduced or withdrawn only after communist domination and control of the various coalition governments were assured.

The drive for extension of Soviet influence into the eastern Mediterranean, a centuries-old Russian objective, was renewed in several indirect ways. Occupation forces in Iran were withdrawn only in the face of stern threats of action by the United Nations. The Soviet Foreign Minister advanced the proposal of Soviet trusteeship of the former Italian colony of Libya. Pressure was exerted on Turkey to agree to joint control of the Turkish Straits, and Communist guerrilla activities were intensified in Greece, weakened by the Nazi occupation, internal dissension, and admitted British inability to provide a stabilizing influence. American planes, lost over Yugoslavia, were shot down. It was apparent that Soviet strategy aimed at the exploitation of political and military weaknesses whenever and wherever they could be found.

In the light of Soviet intransigence and double-dealing on many major issues throughout the

world, the United States evaluation of this situation was that Soviet domination in the eastern Mediterranean would threaten the independence of other states in the Middle East, vital supply routes through the Suez Canal, and important sources of oil upon which the United States Navy depends for a sizable proportion of its fuel supply. Accordingly, as a counterstrategic move, the Truman Plan was promulgated to provide military and economic aid to Turkey and Greece. The strategic aspects of this plan were summarized by Walter Lippmann in March 1947:

The reason for intervening in Greece and Turkey is that of all places in the world they are the best suited strategically for the employment of American military power to check the expansion of Soviet military power. The power of the Soviet Union is in its inexhaustible reserves of infantry capable of pressing upon its wide land frontiers in Europe and Asia. There is no other power or group of powers capable of mobilizing the troops to hold, much less push back, the masses of the Red Army on land. The power of the United States is on the sea and in the air. This kind of power can be exerted to check the Red Army only if it can be brought within striking distance of the vital centers of the Soviet Union.

The obvious and unique strategic approach, as all history proves and the Russians are most keenly aware, is across the Black Sea to the Ukraine and the Caucasus. The entrance to the Black Sea is in the eastern Mediterranean through the Aegean Sea and the Dardanelles, that is to say between Greece and Turkey . . .

Insofar as we are able to exert American sea and air power in the Black Sea, we have the means of checking the advance of the Red Army westward into Europe. We are on its flank and in its rear, and we are able to maintain a balance of power, without which serious diplomatic negotiation is impossible.

Since the sea and air power of the United States Navy is intimately associated with the strategic situation in the Mediterranean, it follows that Naval Intelligence can and must make a significant contribution to strategic planning.

American success in Greece, strengthened relationships with Turkey, and the deviation of Tito from the Moscow orbit have all combined to serve the strategic purposes of the United States. However, it should be pointed out that there is still

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little room for complacency or undue optimism. The oil supply was cut off from Iran in 1951 and the unstable government of that country is seriously threatened by Soviet subversive efforts; while, at the same time, the nationalistic aspirations and racial prejudices of the Arab peoples throughout the Mediterranean basin are being exploited as a means of weakening the position of the United States, Great Britain, and France in that area. This development has been particularly serious in that it poses a threat to the chain of United States strategic air bases located along the North African coast. In the fall of 1952, the purging of presumably dissident elements in Czechoslovakia appeared to be serving the double purpose of stabilizing Communist control in that country and appealing to the anti-semitic prejudices of the Arab world. In view of the general unrest, the United States 6th Fleet has played a major strategic role in the Mediterranean, showing its flag in ports from Trieste to Istanbul, thus bolstering local confidence and deterring overt Soviet action.

The Soviet land blockade of Berlin in 1948-49 represented a major test of strength. Although the airlift was very costly to the western democracies, its strategic significance was tremendous. In the first place, it showed that the United States was not ready to be driven out of Germany; and, even more important, it strengthened the will of the Germans and other peoples of western Europe to resist Soviet aggression. Economic support to the anti-Communist nations of western Europe further aided United States interests, while influence was effectively applied in support of anti-Communist political parties in a series of crucial national elections in France and Italy.

In Asia, Communist control was gradually extended over all of China, with the exception of a few offshore islands and Formosa. Even inaccessible Tibet fell under the domination of the Communist government in Peking, thus posing a potential threat to India. The control of China, plus that of Sakhalin and the Kuriles, gave the Soviet Union the strategic initiative in Asia. Not only did it make possible the application of strong pressures on the large resident Chinese population in many areas of the Far East, but it also provided a strategic support base for guerrilla war-

fare and Communist encouraged nationalist revolts in Indo-China, Malaya, Burma, and Indonesia. The strategic position of the United States in the Philippines, Okinawa, and Japan was immediately threatened. If Soviet influence were extended to Southeast Asia and the Persian Gulf area, India and Pakistan would be in a very precarious position.

Faced with mounting commitments all over the world and with Soviet pressures exerted at many points from one extreme of the Eurasian continent to the other, the United States did not have adequate military or political strength to support its commitments fully or summarily resist all pressures. In Japan, for example, in June 1950, there were only four inexperienced American divisions, all understrength, engaged primarily in routine occupation duties. When the military blow was finally struck in Korea, the United States was unprepared to support the political integrity of that country. However, its strategic significance resulted in action by the United Nations.

The Korean war, from the strategic point of view, has indicated on the one hand that World Communism will resort to military force to achieve its objectives when other means prove unsuccessful. On the other hand, it has shown that the United States will employ the most vigorous defensive measures to halt Soviet penetration and control of the coastal littorals of Asia. An extensive rearmament program has been initiated in an effort to attain military strength consonant with world commitments and adequate to deter the military power which the Soviets have maintained and increased since World War II. In this respect, the war in Korea may eventually prove to be an event of tremendous consequence to the national welfare and security of the United States.

This brief review of postwar strategies shows that planning and intelligence are closely linked, for Intelligence must provide the knowledge for the planners. It must aid in the assessment of Soviet actions wherever they take place and prepare realistic estimates. Timing and method are of tremendous importance. Are the Soviets prepared to exert military force in several areas, and, if so, where and when? Will they continue to hope for military, political, and economic decay in the western democracies, or will they strike

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while their military strength is relatively superior? Do they feel that the extension of their influence by nonmilitary means is fast enough, or will they decide in favor of open war even at the risk of the atomic destruction of their population centers? A great number of diverse elements are involved in finding answers to any of these questions: the progress of Soviet technology, the temperament of individuals in the Kremlin, increased exploitation of natural resources, the morale of the peoples of western Europe, and economic problems in all parts of the world. To find the right answers, the resources and skills of the personnel of all United States Intelligence agencies will be taxed to the utmost.

IMPLEMENTATION OF STRATEGY

In an effort to prepare neat definitions, much has been said and written on the subjects of strategy and tactics, although the nature of modern warfare has led to the inevitable conclusion that the differences between the two cannot be drawn as clearly today as they were formerly—just as the distinctions between war and peace are no longer clear-cut. Tactics, as a military term, refers to the employment of units in combat and to their ordered arrangement and maneuver in relation to each other or to the enemy. In connection with the employment of the nonmilitary factors of strategy, tactics is simply descriptive of the various implementations of a nation's master plan. Strategy and tactics are directly related to strategic intelligence and operational intelligence, the meanings of which have been discussed in chapter 1.

In brief the intelligence officer, in his perspective of the world scene, must recognize that strategy is the forest, tactics are the trees, and neither has meaning without the other. He must not only understand the relationships between world events as they occur, but also be able to predict how an enemy may react in a given situation. In considering the matter of tactics, he must realize that although operations may vary in size and intensity, they are always designed to further the strategic plan and national objectives.

Thus far it has been emphasized that intelligence materially serves strategy, and that it has an important responsibility in assisting the im-

plementation of strategy by non-military means. In a tactical or operational military situation intelligence plays an equally significant part. Here, the intelligence officer must have a professional competence in matters relating to military operations and their component elements. This involves knowledge of the characteristics, capabilities, and new developments of ships, aircraft, weapons, technical equipment, personnel, and materiel, together with procedures, methods of employment, and techniques. His professional competence will be further increased by study of the art, theories, and history of warfare.

Principles of Warfare

The Principles of War, or general truths adopted as guides for action, are based upon the writings of theorists and the experiences of successful military men from ancient to modern times. The many books on this subject merit the attention of intelligence officers, because they are basic guides to the organization, maintenance, and application of all types of military forces. These principles influence tactics, and an understanding of their application gives greater meaning to the procedures involved in developing operational situations. They can serve as a check-list for analytical purposes, but it must be remembered that they cannot be considered individually since they are all closely interrelated.

The *Principle of Objective* emphasizes the need for relating all tactical objectives to national objectives and has been mentioned in the preceding discussion. The *Principle of Offensive* means concentration of all possible effort toward obtaining the objective by successful offensive action; it is based on the truism that military victory can only result from offensive action. An offensive has the advantages of initiative and freedom of action, and compels the enemy to disperse his strength, thereby limiting concentration of forces for effective action. Finally, an offensive raises the morale and determination of both the fighting force and the supporting civilian force; while, at the same time, it may effectively lower the morale of opposing forces. Defensive action is not considered a principle of war, because it is tolerated only for purposes of security or for gaining advantages leading to ultimate offensive action.

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The *Principle of Mass* includes a concentration of combat power, proper timing and placement, a sufficient number of personnel who are carefully trained and thoroughly indoctrinated for precision work, the availability of weapons and materiel for fire power in adequate quantity and of proper quality, and the facility to move both men and materiel as required. Accumulative mass is based on a systematic plan and timetable to reduce the enemy's power of resistance effectively. To the physical shock effect of mass attack must be added the psychological effect in creating anxiety and fear in the minds of both troops and civilians. Related to this principle is that of the *Economy of Force* which directs the distribution and alignment of forces for combat to achieve decisive results. This principle does not mean the saving or non-commitment of military force. Marshal Foch once made some pertinent comments on this subject:

There is a proverb which says you cannot hunt two hares at the same time. You would catch neither of them. Efforts must be concentrated. Those who would say economy means sparing one's own forces being careful not to disperse one's own efforts would only state part of the truth. Those would come closer to the truth who could assimilate the other art of knowing how to expend usefully and profitably to make the best possible use of all available resources.

The appropriate distribution of force reduces the element of risk; forces are not committed to battle before sufficient strength has been gained to insure success. This principle acts as a check and a balance on the others.

The *Principle of Movement* concerns the mobile qualities of combat units and their proper and prompt logistic support; it conditions and limits the principles of offensive, mass, and economy of force. Mobility involves not only the speed, range, and maneuverability of equipment, but also the ability to transport combat units as entities with a minimum loss of time. The security of lines of movement becomes a vital factor in a successful operation. For example, in the North African campaign of World War II, logistic support was denied the Nazis by Allied naval and air forces which sank German ships and shot down German transports which were attempting to bring in addi-

tional troops and materiel. This principle largely determines the possibility of *Surprise* which is another principle of war. The employment of surprise permits the more effective use of combat forces when the enemy is unaware of the time and place of their impending effort. Surprise is often possible as a result of security, rapidity of movement, deception, and the audacity of the commander in striking under conditions which appear unusually difficult and therefore unlikely. New weapons and new or different methods of making use of current weapons may also make surprise possible. Obviously, surprise can magnify the effects of an offensive or a mass attack. However, advantageous as surprise may be, it must be kept in mind that the enemy may employ it too, so that all preparations must be taken to guard against surprise.

The *Principle of Security* is applicable in times of peace as well as war and is closely associated with the warning function of intelligence and the activities of counterintelligence. In an operational situation close attention must be given to such matters as camouflage, dispersion, antiaircraft weapons, radio and radar countermeasures, early warning networks, and defensive armament. The *Principle of Simplicity* recognizes the great importance of clear-cut military organization and easily understood administrative procedures in order to obtain the greatest degree of cooperation and coordination. Simplicity reduces to a minimum the possibilities of faulty execution through misunderstanding and makes easier the handling of an unexpected situation. Clarity in command responsibilities and relationships and the publication of Standard Operating Procedures contribute to the required simplicity of military operations. Confidence, a minimum of confusion, and a maximum of efficiency are qualities which can be derived from careful attention to this principle. The *Principle of Cooperation* provides for unified effort toward a common goal; unified command, joint training, economy of joint effort, and selflessness of interests are all contributory factors.

World War II Battles in the Pacific

The use of intelligence for operational purposes is discussed in detail in later chapters, but in order to assess the part played by intelligence in the im-

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plementation of strategy, a consideration of specific operations which took place in the Pacific during World War II is most helpful. The successes and the failures of the opposing forces were directly related to the effectiveness of their respective intelligence efforts.

For the attack on Pearl Harbor the Japanese commanders were provided with intelligence which was amazingly complete, accurate, and usable. The contribution of intelligence to their success is well summarized in the *United States Strategic Bombing Survey, Japanese Military and Naval Intelligence Division*:

The shocking success of the Japanese attack on Pearl Harbor was due to careful planning based upon nearly complete intelligence as to the position, movements, and strength of United States forces in the area . . .

The Japanese had a large amount of detailed information concerning United States fleet units, air strength, and other military installations at Pearl Harbor which was put to effective use in the surprise attack. After the raid, crashed Japanese planes and a beach midget submarine yielded annotated charts and other documents which set forth the United States situation in fairly accurate detail.

The midget submarine had on board a United States Navy hydrographic chart which had been used as a track chart for the sub's intended transit of the harbor. It was annotated with detailed navigational data, with the names and positions of major units expected to be in the harbor, and with the berthing areas of minor units and auxiliaries. Similar intelligence concerning ship anchorages, charts for aircraft torpedo runs against specified targets, and data on Honolulu radio frequencies were found in crashed planes.

The leader of the first attacking flight, Captain Fuchida, has reported the careful preparations which accounted for the effectiveness of the attack. The attacking pilots were briefed on 23 November, 3 December, 7 December, and at a final session two hours before the attack on 8 December (Tokyo time). At the briefing the day prior to the attack, the revised estimate of the major units at Pearl was announced as no carriers, 7 battleships and 7 cruisers. Actually there were 8 battleships and 8 cruisers. At the final briefing, the pilots were given mimeographed sheets indicating—with names in most cases and with substantial accuracy—the probable positions of the

warships berthed around Ford Island and at the Navy Yard.

Conditions affecting the United States Forces during the period immediately following the attack are discussed in the *Report of the Joint Committee on the Investigation of the Pearl Harbor Attack*:

While it appears that some planes under Navy direction were assigned to search the sector to the north of Oahu, generally regarded as the dangerous sector from the standpoint of an air attack, they were diverted to the southwest by reason of a false report that the Japanese carriers were in that direction.

Admiral Smith, Chief of Staff to Admiral Kimmel, said he did not get the information as to the probable location from which the Japanese carriers launched the attack for some 2 days. There is a great deal of confusion including false civilian reports of troop parachute landings and a false report from one of our own planes concerning an enemy carrier to the south. A chart showing the position of the Japanese carriers was taken from a Japanese plane by the Army on December 7 but was not shown the Navy until the afternoon.

The deplorable feature of the action following the attack was the failure of the Navy and Army to coordinate their efforts through intelligence at hand. The same Army radar unit that had tracked the Japanese force in, plotted it back out to the north. Yet this vital information, which would have made possible an effective search, was employed by neither service.

The situation in connection with the Japanese occupation of the Philippine Islands was somewhat similar. Here again, accurate intelligence regarding American forces on Luzon made possible effective operational planning, which was coupled with the element of surprise. The Japanese estimate of the situation in the Philippines proved to be substantially correct and their forces enjoyed early and economical success in spite of the fact that the United States ground forces maintained organized resistance longer than had been anticipated.

The basis of Japanese success in this operation was the destruction within a week of American air strength by the Japanese 11th Air Fleet based in Formosa. According to information brought

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out by the interrogation of Vice Admiral Shirai-ichi, then Chief of Staff of the 2d Fleet, and of Captain Takahashi, then on the 11th Air Fleet Staff, the Japanese began their attacks on 8 December with almost exact information regarding the strength and disposition of the American air forces. Making use of surprise, the invaders were able to destroy most of the American planes on the ground. This vital information was obtained by reconnaissance aircraft on 24-25 November which reported 300 planes in the Luzon area—there were actually 317.

Prior to the Battle of Midway in mid-1942 there was a tremendous decline in the efficiency of Japanese Intelligence, with the result that the Japanese commanders entered into this battle with an abysmal lack of anything approaching accurate knowledge. The Japanese Estimate of the Situation, discussed in the ONI Review for May 1947, included the following specific points: (1) Although the U. S. Navy "lacks the will to fight," it will counterattack if Midway is occupied; (2) "The enemy is not aware of our plans;" (3) the United States has no carrier force in the vicinity; and (4) after attacking Midway by air and destroying American shore-based strength, the Japanese Striking Force will still have enough planes "to destroy any enemy task force which may choose to attack."

On the other hand, the United States forces had available a rather accurate estimate of Japanese plans and preparations drawn up by Intelligence from various items of information derived from many sources. One of the vital decisions of the Pacific War was made by Admiral Nimitz when he accepted the estimate of his intelligence section that Midway and the Aleutians were primary objectives of the enemy. By 23 May, Rear Admiral Bellinger, Naval Air Commander at Pearl, was able to predict the Japanese plan of attack, the composition, approximate routes, and timetable of the forces which were threatening Midway. This battle was a major success for U. S. Intelligence; the "United States Strategic Bombing Survey" comments:

The battle of Midway was a notable early occasion where United States intelligence concerning the enemy was superior to the enemy's intelligence concerning the United States, thus affording an opportunity to organize and

employ our forces effectively and achieve a victory of decisive importance.

Just as the Battle of Midway is generally considered to have been a turning point in the war, so it was also a turning point in the intelligence effort. As the war progressed, American intelligence increased in quality and quantity while that of the Japanese decreased. The Imperial Staff continued to underestimate United States strength and capabilities and concluded that no major operations could be attempted before the end of 1942 because of American naval losses at Pearl Harbor and heavy shipping losses in the Atlantic.

These faulty estimates were partially responsible for the success of the Allied counterattack through the Solomons area which marked a change in pace from the defensive to the offensive. The American landings in the Guadalcanal area in August 1942 caught the Japanese completely by surprise at the particular time when they were not prepared to defend the area or to mount an effective counteroffensive. Their difficulties were compounded by two disastrous errors: the first was an initial intelligence report that less than 1,000 American troops were involved in the landings, while actually there were more than 19,000, including the 1st Marine Division and two Army battalions; the second was an underestimate of troops required to recapture Guadalcanal, based upon experience in China and in Malaya.

Using this inaccurate and incomplete information, the Japanese made a number of attempts to regain the island with insufficient forces which were destroyed one after the other. In August, 1 battalion was committed and destroyed; in September, 3 battalions mounted an unsuccessful assault; in October, after the extent of United States strength was realized, a joint Army-Navy operation involving two divisions of 29,000 troops was carried out which also failed. Further attempts were equally ineffective and Guadalcanal was finally abandoned in January 1943. By continuing to underestimate the strength of the American forces, the Japanese gave them the invaluable opportunity to strengthen their position gradually so that each attack was successfully repulsed.

The glaring error of the Japanese during the Solomons campaign in underestimating United States strength resulted in a serious weakening of

their air and naval power by piecemeal commitment in a series of ineffective counterattacks. Their best carrier air groups were decimated, and their warship strength in all categories was materially reduced in the long series of naval actions. At the same time, heavy transport shipping losses progressively curtailed their offensive operations, not only in the Solomons-New Guinea area, but later in other areas as well. The effects of this poorly conceived plan of operations in the Solomons were far-reaching. Since the carrier air groups had been drawn from the Combined Fleet based at Truk, their destruction made it impossible for the fleet to support Japanese positions in the Gilbert and Marshall Islands either by surface or air action. Before replacements were possible, American forces were able to over-run those islands. These persisting losses had a deteriorating effect on Japan's total military strength from which she was never able to recover.

At the battle for Leyte Gulf the Japanese naval operation, carried out by means of a three-pronged attack, was planned and executed with almost no intelligence available. In numerous instances individual commanders could not employ their units effectively because of the lack of knowledge regarding their opposition. The effect on the outcome of the battle is summarized in the *United States Strategic Bombing Survey*:

Investigation shows that a continuing basic weakness in the Japanese position throughout this action was the lack of adequate operational intelligence. This is seen to have contributed to their other difficulties and to have compounded them. They were unable to get adequate timely information as to the strength, location, and movements of the United States forces, and as a consequence were operating a large part of the time by guess and chance. The chief cause of the lack of adequate intelligence in this situation was the recurring failure to maintain air reconnaissance, which was admittedly a cardinal weakness. There is no indication that there was any effective Japanese submarine scouting in these actions.

In this battle, as was later the case at Iwo Jima and Okinawa, United States naval commanders were able to base their operations on much better intelligence regarding the strength, disposition, and composition of opposing forces.

It is true that in the latter stages of the Pacific war the Japanese were able frequently to prepare fairly accurate estimates of impending Allied operations; but it is equally true that the number of possible objectives was rapidly reduced as the Allied forces approached their ultimate objective. The campaigns at Midway, in the Solomons, and in the Gilbert and Marshall Islands each reflected progressively sharper drops in the quantity and quality of intelligence available to the Japanese operational commanders. As a result, they were forced more and more to rely on professional speculation which contributed to defeat rather than to victory. From a review of the various Pacific campaigns, it is concluded that intelligence contributed materially to successful military operations, while a severe and sometimes insurmountable handicap was imposed upon the commander who did not have it, or who failed to use it.

DYNAMICS OF STRATEGY, TACTICS AND INTELLIGENCE

Just as strategy and tactics are formulated in part from the knowledge provided by Intelligence, intelligence activities are likewise affected by developments arising from strategies and tactics. The intelligence perspective, therefore, must have flexibility and the capacity to adapt itself to changing conditions and circumstances. Events can and do take place in the world scene and in operational situations which have a direct and immediate impact on planning, so that Intelligence must be prepared to react promptly if it is to make its full contribution.

During the course of their long history, British planners have shown a remarkable capacity to make use of changing events, extracting the advantages presented and adapting their plans and policies accordingly. Such a procedure at the higher planning levels might be critically described as improvisation and opportunism; however, since the British have not deviated from their basic national objectives, its merit has been historically demonstrated. In this connection, Churchill has commented: "We assign a large importance to opportunism and improvisation, seeking rather to live and conquer in accordance with the unfolding event than to aspire to dominate it often by fundamental decisions."

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World War II is replete with examples of the ability of American commanders in the field to adapt themselves readily to changing circumstances; the ingenuity of the individual American soldier, sailor, and airman has reflected a common national characteristic. American top-level planning in the past has tended to differ from that of the British. In noting this difference, Churchill again has said that "in the military as in the commercial or production spheres, the American mind runs naturally to broad, sweeping logical conclusions on the largest scale. . . . They feel that once the foundation has been planned on true and comprehensive lines, all other stages will follow naturally and almost inevitably." The approach of American planners has been to prepare several carefully analyzed plans each of which, if selected, will lead to inevitable conclusions. The success of this approach has also been amply demonstrated. In view of the trends of modern warfare, however, it is entirely possible that American planners may now find it advantageous, if not necessary, to make full use of developing situations. Whenever this is true, Intelligence can make a substantial contribution.

For the greatest success of their mutual effort, the relationships between policy-makers and Intelligence should be closely scrutinized at frequent intervals. In his provocative article, *Intelligence and Policy-Making in Foreign Affairs*, Roger Hilsman, Jr., serving with the Joint Military Advisory Group in Europe in 1952, has analyzed these relationships and found a division of labor which, in his opinion, may not be the best.

Intelligence on the one hand and policy-making and action on the other are separated physically, organizationally, chronologically, functionally, and by skills—separated in every possible way.

His suggestion, in part, is a reconsideration of organizational structure. Regardless of what suggestions may be offered, it is true that the dynamics of strategy, tactics, and intelligence can best operate under the most carefully coordinated conditions in an atmosphere of mutual understanding.

Attitudes for Intelligence

In assuming its share of responsibility, Intelligence must maintain a perspective that is positive,

clear, and keenly alert; it must never lose sight of its own purposes and objectives as determined by the requirements of those responsible for national strategy and its implementation. In Mr. Hilsman's opinion,

. . . the important step for intelligence is an intellectual reorientation designed to create a new set of attitudes—a frame of mind which is manipulative, instrumental, action-conscious, policy oriented. The major task before the researchers is one of recasting their thought to the context of action, and adapting their tools to the needs of policy.

Ultimately, both operators and researchers must move from hunch and intuition to an improved capacity for explicit and disciplined policy analysis. If at the same time the researchers become policy-oriented, there may develop a more effective integration of knowledge and action . . . The first problem is one of attitudes and skills.

—*World Politics, October 1952.*

Although critical, this statement serves a good purpose in that it stimulates a thoughtful consideration of appropriate attitudes.

Two things merit special attention. The first is that planners must recognize that intelligence is a continuous activity and that planning must be grounded on fact rather than on conjecture. The second, is that Intelligence personnel must consider their work in time of peace as important as in time of war, if not more so. General Donovan has appropriately said:

It is much more difficult to prevent war than to wage it. It is even more important in peacetime, in a sense, to know what people are up to, and what's going on, so that the peace can be preserved. If you want to have peace in the world, you've got to know the truth of what is happening and not be forced to rely on rumor. Rumor might make us act in one way, and knowledge would compel us to act in another.

Shortly after World War I, Colonel Nicolai, well-known German intelligence officer, urged that the peacetime functions of Intelligence be maintained and said, "But if even today certain circles believe that nations can cooperate, they ought to make sure the way of cooperation is illuminated by a good Intelligence Service . . ."

Nicolai also summarized the role of intelligence in the world scene when he said: "The Intelligence

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Service moves ahead of developments into the dark future, in order to discover what it will be and to influence it."

This discussion has stressed the importance of accurate, pertinent knowledge as it relates to the fields of strategy and tactics. The tremendous volume and scope of such knowledge require that

it be reduced, for the sake of manageability, to its logical component parts in order that it may be efficiently collected, carefully evaluated, and made available in usable form. The following chapter will outline by component parts the content of intelligence used by strategic and operational planners.

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CHAPTER 5

COMPONENTS OF INTELLIGENCE KNOWLEDGE

Intelligence knowledge is generally divided into eight component parts: geographic, transportation and telecommunications, sociological, political, economic, technical and scientific, armed forces, and biographical. Each part is then often identified as a type of intelligence. While this division is not completely standardized and variations can be debated, it is agreed that no one component can stand alone. Each is interdependent and interrelated with one or more of the others. In order to gain a proper perspective when using this knowledge, all parts must be integrated into a well-balanced whole.

In connection with use, two points must be emphasized: first, for purposes of planning and reaching decisions at almost any command level, the user can seldom confine himself to only one component; and second, depending upon the particular problem at hand, he will usually select various items from different components in determining the best answer. In other words, point of view and particular needs govern the use of intelligence knowledge and the parts thereof. In estimating the capabilities of an opposing military force, for example, the commander must know more than its size and fire-power, as gained from enemy order of battle reports. He must also be informed of the enemy's economic and technical resources and the personal characteristics of opposing commanders and personnel. Under some circumstances, political and social forces governing enemy behavior may be important. Thus knowledge not encompassed by the category of Armed Forces Intelligence may be of inestimable value to a subordinate command in carrying out its assigned task and represent a vital saving in time and lives. An Underwater Demolition Team is greatly aided by advance geographic knowledge regarding such matters as beach gradient; aviators need meteorological data as well as target information; and those responsible for logistics require a wide range of intelligence knowledge in

order to perform their responsibilities efficiently and economically.

Since these various components are mutually supporting, the intelligence officer cannot wisely confine his energies to the mastery of only one, as will be pointed out in the ensuing discussion.

GEOGRAPHIC INTELLIGENCE

Geographic intelligence is the military evaluation of all the geographic factors which may in any way influence a military operation. Military geography embraces all aspects of the physical environment of man, both natural and artificial: the position, size, shape, boundaries, weather, climate, water characteristics, land forms, drainage, vegetation, and surface materials of all parts of the earth; also the cultural or man-made features such as cities, transportation routes, industries, mines, and farms.

Frontiers

The problems of location, size, shape, and frontiers for a territory are largely strategic. Location basically affects the economic, political, and social nature of a country because of its relation to markets, to agricultural and mineral resources, to terrain and climate, and to transport. Military problems grow out of the economic, political, and social. Size and shape and frontiers have military significance, for great size may afford an opportunity to trade space for time. Air power may shrink distances but size will still give minutes or hours of warning of conventional air attack to centrally located industrial sites. On the other hand, size is a weakness when there is waste or undeveloped land that requires expensive long hauls for industry and long military movements of materiel and personnel from one frontier region to another. The shape of a country, of course, determines the relative amount of frontier to be defended. Frontiers have multiple significance. Strong natural frontiers as opposed to artificial

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ones may tend to isolate countries from other peoples and ideas and hamper trade. Purely political frontiers that shift with the fortunes of war will affect the military and political views and behaviors of nations. Sea frontiers will influence the growth of seapower. The military study of frontiers must consider man-made features such as fortifications and bridges. In a time of cold war, the fact that satellite frontiers have been denuded of farms and villages, stripped bare of vegetation at the boundary itself, and protected by electrified wire, mine fields, and patrols with dogs is no small intelligence consideration. In the planning of conventional military campaigns, frontiers may be studied for their tank traps, dragons' teeth, bunkers, and access roads, as well as for their natural physical elements.

Topography

Land forms, drainage, surface materials, and vegetation, all elements related to topography, are of more than army interest. The general character of continents and islands, even of plains, mountains, and plateaus, are of strategic interest. For example, the broad sweep of the North German plain across Germany, Poland, and into Russia, as well as the Pyrenees barrier, are of importance in assessing the potentialities of Soviet military advance in Europe. But whether collected in strategic encyclopedias or observed in field operations, military concern extends to individual valleys, basins, ridges, cliffs, hills, and other features. In this age of joint operations, all three services are concerned with these elements of topography. Of special importance to the Navy are the detailed characteristics of coasts and landing beaches. All these topographic features affect the movement and supply of forces, the types of equipment that can be used, the methods of attack and defense, the possibilities of concealment and surprise, and many other operational matters.

Land forms and drainage conditions are so closely related that it is almost impossible to consider one to the exclusion of the other. Whether an area is fully or partially drained, the number, width, depth, and direction of rivers and streams, and the condition of their banks and crossing-places, are determining factors in the movements of troops and the tactics employed in any given

area. The number, size, and distribution of lakes, ponds, lagoons, swamps, and marshes are elements that may play an important part in military operations. Subsurface water is a principal source of water supply, and in many areas constitutes a major drainage problem in excavation and construction. In recent years rivers and swamps have many times shaped military actions. Examples are the causeway from Johore to Singapore's back door, the Remagen bridge across the Rhine, the Yalu river, which freezes over to allow troops to cross without bridges, and the Rapido in Italy which was a barrier for so long.

Military interest extends to soils analysis as well as to land form. The materials of the surface of the earth determine, among other things, what kind of vehicles can move over it, whether it is suitable for entrenchments, how quickly it will drain, and the effect of frost. Surface materials have a definite significance concerning the construction and maintenance of roads, airdromes, and other engineering problems. In addition, in the broader picture, soils affect agriculture, mining, and basic transportation routes. There are many regions where seasonal weather changes related to local soils bar virtually all movement except along established railways and better roads. Japanese ability to honeycomb some of their wartime positions proved to be a major factor in slowing the reduction of their military power. This was noted in such places as Iwo Jima and Okinawa where soft rock allowed relatively rapid digging. The coral of some south Pacific atolls proved to be a superb construction material for airstrip runways. The muck of Attu rendered inefficient much of our artillery fire in the landing at Massacre Bay.

Coasts and landing beach intelligence, of special naval interest, is now becoming so specialized and requires such development that its detailed discussion is reserved for the amphibious section of chapter 13. It involves a study of the sea approaches, the coastal terrain, the beaches themselves, the beach exits, and adjacent terrain.

The presence or absence of forests, brush, grassland, cultivated crops, and other forms of vegetation has a vital effect on military operations. Vegetation may be in either the primeval state or the result of cultivation. In any case, its charac-

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ter, distribution, and seasonal variation have important bearings on cross-country movements, deployment, concealment, and visibility. Local supplies of food, forage, and timber are also related to the nature of existing vegetation. Extensive areas of dense vegetation, such as woods and jungles, or the relative absence of vegetation, as in the desert areas, may be a major consideration in strategic and logistics planning. They may result in a need for special types of organization, equipment, and methods of supply. When these areas are not too extensive, they are considered primarily from the tactical point of view. How different were the wars of the Burma jungle with small units filing through the brush and the great armored sweeps of the Afrika Korps and the opposing "Desert Rats" between El Alamein and Bizerte!

Hydrography

Hydrography, and especially its subdivision, oceanography, is of particular naval concern when detailed information is required. Amphibious operations are especially affected by hydrographic considerations. Hydrography, of course, refers to the measurement and charting of all bodies of water; oceanography is concerned more specifically with phenomena of the oceans and seas, including gulfs, bays, and estuaries. Naval concern includes tides and currents, sea and swell, sea water characteristics of salinity and temperature, bottom topography, sediments, and marine life. Knowledge of ocean currents, tides, sea, and swell is important to all ships at sea, but particularly to craft engaged in amphibious operations. The significant and costly effect of a lack of such knowledge is illustrated by the unhappy position of landing craft stranded off Tarawa in the Pacific during World War II when a change in the wind varied the depth of water over offshore reefs and the Marines had to wade ashore in the face of withering enemy fire. The needs for detailed hydrographic data were again sharply demonstrated prior to the Inchon landing in Korea in 1951, when landing craft had to thread their way through restricted waters to land in a harbor where tides were all-important and the existence of extensive mud flats directly affected the types of landing equipment which could be used.

Studies of temperature, salinity, and density of sea water are especially important to the use of sonar in submarine and anti-submarine warfare. Again, in the broader sphere, warm and cold currents strongly affect the habitability of many regions of the world. The Gulf Stream makes northwestern Europe important in one sense, while the Labrador current has quite different effects across the Atlantic.

The configuration of the ocean bottom, depth of water, type and distribution of bottom sediments are important elements in navigation instructions and in the location of anchorages. These conditions together with information on reefs, shoals, and other obstructions, help to determine the location of naval bases, and the planning of naval and amphibious operations. Someday when the means are found to exploit the seas for more than fisheries and offshore oil wells, control of marine resources may become a compelling strategic issue.

Even marine biology is of naval concern in a variety of ways. Whales or other sea creatures may be mistaken for submarines. Some forms of marine life create enough noise to obscure more significant sounds on the sensitive hydrophones used in submarine and antisubmarine warfare. In a number of parts of the world a ship or snorkeling submarine may leave a tell-tale fiery wake because of the bioluminescence from the plankton growing in the water. All military personnel, whether sailing or flying over the seas, or wading ashore in a landing, need some knowledge of the habitat and habits of poisonous or savage marine life. This applies to UDT's who work in the water and to those involuntarily brought into the water due to aircraft failure or ship sinking. There are stinging jellyfish and some nonedible fish that may poison the unwary, as well as the well-publicised sharks that infest many regions.

Aerology

Aerology or meteorology refers to the study of the atmosphere, especially its variations of heat and moisture, its winds, and so forth. Weather refers to the meteorological conditions such as wind, temperature, rain, snow, and cloud, that affect an area at a given time or for a short period of time. Climate, on the other hand, refers to the

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average and range of meteorological conditions affecting an area over a long period of time. In a sense climate is strategic in nature since it affects the basic planning of military operations and of course affects the economic and social life of an area through the crops that can be raised and the density of the population. Operations of a military nature frequently must be planned in the light of known seasonal changes of weather based on climate studies. It is impossible to read military history without an awareness of the importance of weather to operations planning. The Japanese carriers that hit Pearl Harbor came in behind a cold front with heavy clouds and rain that shielded their approach. General Eisenhower's *Crusade in Europe* makes constant reference to aerology and hydrography:

There was unusual operational hazard connected with the Casablanca project. During the late fall and winter the northwest African coast is a forbidding one from the standpoint of small boat landings. The long Atlantic swells break up on the beaches in terrifying fashion and even in relatively good autumn weather this condition exists, on the average, four days out of five. . . .

After the abandonment of the May target date, the next combination of moon, tide, and time of sunrise that we considered practicable for the attack (on Normandie) occurred June 5, 6, and 7. We wanted to cross the channel with our convoys at night so that darkness would conceal the strength and direction of our several attacks. We wanted a moon for our airborne assaults. We needed approximately forty minutes of daylight preceding the ground assault to complete our bombing and preparatory bombardment. We had to attack on a relatively low tide because of beach obstacles which had to be removed while uncovered. These principal factors dictated the general period; but the selection of the actual day would depend upon weather forecasts.

If none of the three days should prove satisfactory from the standpoint of weather, consequences would ensue that were almost terrifying to contemplate . . .

When the commanders assembled on the morning of June 4 the report we received was discouraging. Low clouds, high winds, and formidable wave action were predicted to make landing a most hazardous affair. The meteorologists said that air support would be impossible, naval gunfire would be ineffi-

cient, and even the handling of small boats would be rendered difficult . . .

When the conference started the first report given us by group Captain Staff and the Meteorological Staff was that the bad conditions predicted the day before for the coast of France were actually prevailing then and that if we had persisted in the attempt to land on June 5 a major disaster would almost certainly have resulted.

Aerology as a science is becoming much more complex because of the heavier demands upon it. Although a physical science, it has so many variables that predictions on weather have some of the indeterminate character of the social sciences. We no longer are interested in the "weather" alone. We need to know what conditions are at many different altitudes. Close to the ground much more detail is needed in order to prepare defenses against use of toxic warfare. Aloft flying weather, headwinds, and tailwinds are quite different at various altitudes and such reports are routinely required for all flying operations. Now research into weather is extending into the upper atmosphere never before explored, in order to prepare the way for turbojet and rocket flight of aircraft and missiles.

Collection of weather data in war is so important that very considerable efforts are made to obtain it. German weather stations were set up in Greenland to give advance warning of conditions in the Atlantic and Europe, since weather moves generally eastward. To support our own carrier operations in the Pacific we had to establish stations in Siberia and also in China. Naval Group, China, operated literally hundreds of secret weather stations deep behind the Japanese lines to report the weather that later would govern our carrier strikes in the Pacific. Today we would face some difficulties in weather data collection from the vast Soviet territories if war were to come. One solution made public is a robot weather station that can be dropped from an aircraft. On parachuting down, it would automatically rise on extensible legs, push out an antenna, and broadcast coded radio signals on the weather in the same way as telemetering missiles.

Weather reporting is now so technical that trained meteorologists must make detailed forecasts. But the intelligence officer, being responsi-

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ble for reporting on the area of operations, must have some familiarity with the subject. He must at least be able to read weather maps, station models, sequence reports, and to interpret their meaning.

Urban Geography

A subdivision of military geography is concerned with cities and other cultural factors. The applications of this information are numerous. Strategic targets of factories, transport, and housing need study. Tactics frequently involve seizure of a town, and require detailed information on construction of buildings, possible strong-points, main thoroughfares, power, water, and communications facilities. Later there may be questions of billeting space in what is left. Certainly vulnerability to fire, high explosive, or atomic attack are key considerations.

Descriptive Analysis of Military Regions

In practically all nations except the very smallest, sufficient variation in geographical character exists to make it impractical to confine a study to the geography of a nation as a whole. Consequently, studies are often broken down into regions having geographical characteristics which would exert a definite influence on military operations. By definition, a military region is a region of any size in which the combination of geographic conditions is relatively uniform, and, as a result, permits the use of the same types of equipment, organization, and mode of operations throughout the region. These may be areas where mountains, plains, river systems, deserts, industrialized areas, or other factors are predominant and thereby establish the nature of the region. Local minor variations in geographical conditions are treated as subregions. In preparing the descriptive analysis of a military region, the area is first considered from the over-all viewpoint and then is broken down into appropriate subregions for detailed consideration. This type of encyclopedic information used for general military planning usually needs additional detailed analysis and current reporting to meet tactical needs.

Preparing Geographic Intelligence

The importance of peacetime efforts in acquiring the data needed for strategic studies has been

emphasized, and this is certainly true of geographic intelligence. Compilation of good charts and maps, painstaking analysis of soil surveys and other data from a variety of sources, and the matching of aerial photographs with existing charts is time consuming work that should go on continuously. Inevitably in war there are new demands and many of these processes must be speeded up. As potential areas of operations become actual areas, the emphasis shifts from strategic to operational intelligence.

The strategic area studies and surveys prepared by United States Armed Forces in World War II merit special mention here. In ONI, in the Naval Districts and River Commands, and at intelligence centers and joint intelligence collection agencies in operational areas, whole sections of specialists devoted their entire time to the evaluation, compilation, and distribution of reports. Often, like the Joint Army-Navy Intelligence Studies (JANIS), these reports were the result of joint effort.

The surveys drew upon many divergent sources for their material. They contained data collected by aerial photographs over enemy territory, often supplemented by information gained from interviewing engineers who had built or managed the installations photographed. Beach gradients were calculated from photographs taken from warplanes and even from snapshots taken by tourists and missionaries; these pictures were supplemented by the notes of American geologists, naturalists, and conchologists who had worked in the area, and by the reports of friendly natives or guerrillas.

New Horizons of Geographic Intelligence

The horizons of geographic intelligence have been pushed farther in several directions as a result of technological progress and political change. This of course, as is amply demonstrated elsewhere in this book, applies to all intelligence. These geographic changes are easily illustrated by reference both to the World Wars and to more recent events. World War I was largely fought in traditionally strategic areas, but included operations in places as remote as the Falkland Islands, Tanganyika, the Hejaz, and Cocos Islands. Much more striking were the changes of World War II

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that took hundreds of thousands of Americans to such unlikely spots as Ulithi Atoll, that make commonplace in American thought the Hump, Kasserine Pass, Eniwetok, and Coral Sea. Currently we have become vitally concerned with new names: Abadan's refineries, Shinkolobwe's pitchblende, and the oil of Leduc. The turn of events has given America and consequently her Armed Forces heavier responsibilities than ever before. The new technology demands much greater geographical detail and accuracy. The long range guided missile, when it acquires range, command, speed, destructive power and accuracy, must still find the right targets. Since existing charts and maps have errors of many miles in some parts of the world, finding the target becomes a major problem, and constitutes a challenge to the geographic intelligence of the future.

Polar Intelligence

One of the expanded horizons of geographic intelligence is in the north polar regions. The old Mercator view of the world of sailing ships has been amplified by polar projections and the realistic views of Richard Edes Harrison, well-known cartographer. The fact that the United States and Canada are really polar neighbors of the Soviet Union is a familiar theme both of the Sunday supplements and military strategic estimates. The implementing of plans to meet this new challenge of the air age is a greater task than the mere recognition of new problems. An immediate requirement since World War II has been to collect new geographic intelligence and operational experience on cold weather operations to overcome the admitted Soviet lead in this field. Such operations as *Muskoø*, *Frostbite*, *Icebox*, *Frigid*, and *Williwaw* in the Arctic, and *Highjump* in the Antarctic, have been directed to that end, as have also the daily weather flights from Ladd Field to the North Pole. Our general strategy has been revised to strengthen Alaska, string radar barriers and weather stations in belts across Canada, and to rebuild base facilities in Greenland and Iceland. We have mapped the Arctic, learned to sail in the northern seas, to cross tundra and ice, and developed clothing, fuels, lubricants, housing, and electronic gear suitable to the extreme temperatures and raging storms that are common to the north.

We have also found out with guidance from veteran Arctic explorers that operations in extreme latitudes are entirely possible with proper preparation. Though the likelihood of large land campaigns in the polar area is not great, the extension of aircraft range and the advent of guided missiles make it imperative that intelligence officers have an awareness of the new problems of Arctic warfare and their influence on strategy and tactics.

The Arctic cannot be defined by merely drawing the Arctic circle around the globe at latitude 66°30'. A more descriptive line is the northern limit of trees, above which there is only tundra or ice. Below this the subarctic begins, and includes the northern limit of cereals, the continental taiga of all but southern Canada, much of northern Russia, and certainly the eastern half of Siberia. The low latitude Tibetan plateau is Arctic-type tundra, and winter operations even in the continental forest areas such as the Great Lakes, St. Lawrence Valley, Hokkaido, the Baltic, and Central Russia, involve "Arctic" problems for military purposes.

The topography of the Arctic varies from the broad plains in Russia, parts of Siberia, and around Hudson Bay to the high plateaus of Greenland and Tibet, and towering mountain ranges, often poorly mapped, in the Yukon, Alaska, northeastern Siberia, Kamchatka, the Himalayas, Pamirs, Altai, and Hindu Kush. The Antarctic, largely ice covered like Greenland, includes high plateaus and towering mountain ranges in some areas.

Drainage is a major geographical factor in the Arctic. Many of the greatest rivers of the world, such as the Mackenzie, Yukon, Ob, Yenesei, and Lena, are not only Arctic but flow in a generally northerly direction. Many major rivers of China, Southeast Asia, and India-Pakistan have their sources in Tibet. Overland travel in the Arctic is generally easier in winter than in summer, for tractor trains can travel on the frozen rivers. With the coming of summer the river mouths to the north are still frozen while the southerly reaches thaw and overrun the banks to form vast lakes in the valleys. Canoes with portage from one body of water to the next are a principal means of transport. The frozen surface of winter turns into an impassable bog for tracked vehicles

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in the summer because the frozen subsoil prevents adequate drainage. Roads or railways built across such terrain need new ballast season after season and even so trains frequently are derailed. The epic struggle of the Canadian Government in building the Hudson Bay Railway to Port Churchill is an example of transport difficulties.

Coasts and landing beaches in the Arctic vary from those which are eminently suitable in all respects for amphibious landings to those which are impossible because of forbidding overhanging cliffs. Most are open and exposed, although Greenland, Iceland, and Norway have deep fjords.

By our definition the true Arctic areas are devoid of forest cover. Some are glacial like the interior of Greenland, northern Baffinland, Northern Novaya Zemlya, Ellesmere Land, and Antarctica; more are tundra that offers no real cover, but in the summer may include edible berries and a profusion of wild flowers. The subarctic's forests are scrub growth and often extremely difficult of passage either for vehicles or men on foot.

The hydrographic conditions of the Arctic are of special naval concern. In contrast to the continental land mass at the South Pole surrounded by shelf ice and stormy seas, the Arctic is a shallow sea basin surrounded by land with entrances at Bering Straits, through the northern Canadian archipelago or from the Atlantic approaches near Greenland, Spitzbergen, and Novaya Zemlya. The great ice pack is virtually impassable to ships. Those caught in it, if they escape destruction, over a period of many months may move hundreds of miles with the clockwise drift of the ice and emerge at another point. Due to the pressures of current and wind the ice piles in ridges and irregular masses. A few parts of the pack are flat and thick and the possibility of using them as floating air bases has been exploited by both the Russians and ourselves. Winter shore ice builds out from bays in virtually all of the Arctic Ocean to meet the permanent ice pack and also closes much of Bering Sea, the Sea of Okhotsk, Hudson Bay, the Baltic and even parts of the Caspian and Sea of Azov. Icebergs from Greenland's fjords move far south and constitute a hazard in the North Atlantic shipping lanes. The classic example was the *Titanic* disaster.

In the short summer season cracks open in the

ice pack near shore, and ships may be able to make their way through the northwest passage around North America and the northeast passage around Eurasia. Usually, such ships are specially strengthened, are of shallow draft to allow them to use the primitive ports, and are preceded by powerful icebreakers to clear the way. Aerial reconnaissance minimizes the chances of being caught and crushed, but a change in the wind may often bring that threat. Amphibious landings can be quite difficult if ice close to shore will not support heavy equipment, or if storms have blown up a great barrier of tumbled ice on the beach. A sudden storm may trap both big ships and landing craft by driving the ice pack toward shore and thus removing the frequently limited open water.

The life forms found in the Arctic are of special interest to men awaiting rescue. In the extreme north there may be polar bears, walrus, and seals, but the interior of Antarctica offers little. Eskimos manage to live in good health on meat and blubber, and so can military personnel if it is necessary. Farther south there are many small animals, fish, and in summer birds that can be trapped or shot by the trained men.

It is the weather of course, that offers the greatest challenge to military operations and survival. The temperature range is from over 90° F. in the summer in the Yukon Valley to a winter -90° F. in northeastern Siberia. In the subarctic, summer is a time of torment because of flies and mosquitoes. Snow and fog may cut visibility for many days or weeks on end, affording cover but also limiting travel or navigation. The aurora borealis (or australis at the south pole) restricts radio reception. Compasses are unreliable and it is to be remembered that the magnetic poles neither coincide with the geographic nor are they entirely fixed. Daylight and darkness conditions, reaching the extreme of 6 months of day and 6 of dark have important implications both for observation and for morale. In winter cold, all human movements are slowed by the protective clothing worn. Logistics needs are increased by the kind of housing required and the greater quantities of fuel and food consumed.

Urban geography of the Arctic is largely Soviet, for the only cities of importance in the area are

Russian and Siberian. They have tried to develop mining, lumbering, and commerce along the north-east passage as well as building military bases. Aside from some Alaskan and Canadian mining and trapping, and the new military bases, perhaps the most important economic development in the free world Arctic has been the uranium discoveries near Great Bear Lake. In the approaches of the Antarctic it is the international rivalries of the whaling industry that are of particular interest.

In summary, the great circle routes across the Arctic represent the most direct flight lines for strategic bombers and guided missiles to reach the key populated and industrial regions on earth. The Arctic then is of great concern for aviators who must navigate across it and who may be forced down in it. It is of further concern as an area for detection and interception of such air strikes. It is also an area rich in mineral resources awaiting exploitation. Finally, it requires continued study as a route of travel and invasion by military forces. Its problems are being solved with growing skill, ingenuity, and confidence. The requirements of its climate have produced new developments in housing and weapons.

TRANSPORTATION AND TELECOMMUNICATIONS INTELLIGENCE

A second major component of intelligence knowledge is that of transportation and telecommunications. Information about these facilities in all parts of the world is needed for planning both our strategy at the highest echelons and tactics at lower command levels. All forms of such intelligence are used on occasion by the Navy, even though other agencies collect and process much of the information.

Ports and Harbors

Port and harbor intelligence includes every conceivable type of information on these facilities. Harbors refer to natural locations that may be used as anchorages by ships or as protection and setting for man-made port facilities. Harbors may be bays, rivers, or combinations of both. When a port completely lacks protection and shoreside berthing facilities, it is called a roadstead. Some ports have been created by means of artificial harbors. In the broad sense, a port includes not only

the piers and wharves used by shipping, but also all the transfer, storage, and land transportation facilities used in connection with shipping. In fact a port area includes frequently a considerable tributary area with manufacturing, fuel and water facilities, banking and customs houses; that is, the whole range of the appurtenances of modern commerce.

Sources of information on ports are numerous. Naval observers, as described in chapter 9, can collect some port information. Commercial steamship companies collect much information, too, for their own operations. Individual masters and sometimes crew members make reports to their governments as needed to supplement collection. There are various chamber of commerce and port commission studies available for the asking, as well as tourist guides, foreign government maps, commercial photographs, and data from business houses supplying foreign orders. All are useful sources of information.

Port data are so complex and detailed that most naval powers prepare specific port studies on individual foreign ports. This is a Navy responsibility in our country, but the Navy is not the sole user. The Army needs such data for establishing ports of embarkation. The Navy needs to know what servicing facilities would be available to the fleet. Some foreign ports are studied for their military or commercial importance and vulnerability to attack. During wartime the individual uses of ports may give many clues to the enemy's activities.

Shipping

Ocean shipping is the principal means for the bulk movement of freight internationally. It is characterized by the large tonnage carried by individual ships at very low ton-mile costs, frequently over very great distances. The routes most vital to this commerce of the world are: (1) the North Atlantic from Canada and the United States to the English Channel, North Sea or Mediterranean areas; (2) the Suez route through the Mediterranean to India, Australia or the Far East; (3) the South Atlantic route from Europe and North America to Argentina; (4) the South Africa run from Europe or North America to South and East Africa with extensions to Aus-

tralia and Indian Ocean points; (5) the trans-pacific routes from North America to Asia; (6) the Panama routes linking many continents and several coasts.

A handful of countries build most ships and these same countries are the principal operators of substantial numbers of ships. The United States, Britain, and Norway are the three big operators, though in time Japan and Germany may regain their former positions.

The Navy is concerned not only with the areas where ships operate and with the total carrying capacity of various merchant fleets, but also with the building capacity of various shipyards and the repair facilities. Because of its operational and strategic needs, it must also know the speed, age, tonnage, dimensions, appearance, fuel, draft, ownership, location, and use of every individual merchant ship in the world.

Collection of most shipping information is largely a matter of organization and thoroughness, and most of it can be derived from regular commercial information services. *Lloyd's Register* provides ship particulars and *Lloyd's List* gives vessel movements. A series of trade journals in Britain, the United States, France, Japan, and other countries report building, give vessel plans and pictures, discuss trends in chartering, marine insurance, rates, conference agreements, and so forth. It is only the Iron Curtain countries which hide or disguise their shipping information thus requiring other nations to take special measures in order to develop comprehensive worldwide reports on merchant vessels.

Shipping intelligence has many forms. It may be absorbed into other intelligence as a part of a larger subject. Summary statistics of all sorts are prepared, and card indexes of vessel activity and large wall plots showing estimated location of all vessels are used for operational purposes.

The uses of shipping intelligence are many. Any blockade operations require detailed ship movement information together with manifest data. Protection of shipping against submarines and aircraft requires location data. When an H-bomb hidden in a nondescript neutral freighter becomes a possibility, shipping intelligence needs will be further increased.

Railways

Since railways represent the principal arteries of land transport and have the greatest tonnage capacity for movement overland from place to place, they are of considerable military interest. The Transportation Corps of the Army is chiefly responsible for collection and processing of land transportation data. Essential informational needs include detailed maps of the lines, descriptions of bridges and tunnels, a working timetable, a gradient profile chart, and lists of motive power and rolling stock. Even though a railway may seem relatively static, its capacity is affected by many factors: the maintenance and improvement of the right of way (including ballast, ties, rails), the addition of automatic block signals or train control, the realignment of track to ease ruling grades and reduce curvature, the strengthening of bridges, the switch to new motive power such as dieselization or electrification, and the traffic load with its seasonal and directional differences.

Data may come from newspaper stories, the order books of equipment manufacturers, trade statistics, and trade journals such as the *Railway Gazette* published in London, which is the best for world coverage. Information from behind the Iron Curtain is harder to obtain, but there are publicly announced 5-year plans, radio broadcasts of new construction and attainment of traffic goals, and the reports of refugees.

The use to which such information is put varies. It may contribute to a strategic estimate involving a country's capability to meet overall war requirements or provide specific data concerning the country's ability to move forces to a particular front. The Navy is interested in many details on railways, arising out of such matters as the movement of landing craft or submarine subassemblies over particular lines that may or may not have limited clearances. Preliminary to an amphibious landing the Navy may have air support missions which will include selecting railway targets such as tunnels, bridges, and yards. For both amphibious and land operations, similar targets are sometimes involved in connection with naval gunfire support. The success of naval ships in providing gunfire support to land operations during the Korean War illustrates naval use of intelligence regarding both railway systems and roads.

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Roads

Roads generally serve as feeders to railway lines, although in a few parts of the world they constitute an independent, fairly usable network. They have the military advantages of reaching more places than railways and being more flexible in alternate routes. If trees block a road, vehicles occasionally can drive through fields around the obstacle. Most military transport organic to land units is intended for road use. In most foreign countries roads are typically poor by American standards, having a low tonnage capacity and a rapid deterioration rate. Maintenance thus becomes a problem when they are used for heavy military traffic.

Road maps are available in most foreign countries, but they are frequently inaccurate, and their condition is subject to change with the seasons. Road reports should not only describe the seasonal condition of roads, bridges, and shoulders, but should also note the availability of surfacing materials, local labor, and repair machinery. Bridges, steep grades, and narrow single lanes are typical limiting factors to the usefulness of a road.

Pipelines

The bulk movement of petroleum, gas, and water is increasingly being accomplished by pipeline. Modern technology permits the dispatching of several different products in succession through a line with metering, sampling, and water plugs to keep each one separate. A recent development is the use of radioactive isotopes to identify particular shipments by Geiger counter.

Pipelines represent a mass means of delivery relatively free from interference by weather. Underground lines are reasonably safe from attack, but the pumping stations, storage tank farms, and other surface installations remain vulnerable points.

Pipelines may have more than economic significance. Some United States lines, for example, represented a countermove against German submarine attacks. Others in Burma, France, and Alaska provided direct tactical support. Aerial reconnaissance will usually reveal the construction of new lines, but lacking that opportunity, information on the manufacture and delivery of the necessary pipes and pumps will give many clues.

Inland Waterways

Inland waterways in many foreign countries are a major element in the transportation system. Their usefulness depends upon their general location and direction of flow. The current, controlling depth, turns, constancy of channel, subjectivity to freezing, bridge clearances, and cargo transfer facilities are important details. Reports on foreign waterways are processed primarily by the Army Transportation Corps, and the sources of information are official documents of foreign governments and direct observation. From them are obtained answers to logistics questions. Aerial mining of waterways, and destruction of locks or dams by bombing can be made possible through adequate intelligence.

Aviation

Civil aviation rightly comes under the general cognizance of air intelligence. Although aviation competes with railways only in countries where railways are lacking, it is important to know the role it plays in the rapid movement of critical freight and personnel. Today, airlines under many flags not only blanket their home countries, but extend internationally into far reaches of the earth. Thus they also provide a unique instrument for observation and collection of information.

Our own widespread aviation interests are in a position to report on foreign aviation progress everywhere this side of the Iron Curtain. Trade journals in many languages are likewise extremely helpful. We are interested in new transport aircraft performance and production, the frequency, reliability, and control of air lines, the provision of navigation aids and airfields, and the training of personnel. In time of war or other emergencies, commercial aircraft and aviation facilities play important auxiliary roles. The degree of subsidization of aviation may give clues to intended use. *Deutsche Lufthansa* went so far as to convert "commercial" Ju-52's into bombers and paratroop transports when war came. Italy's commercial air service to Rio de Janeiro reported ship movements off Brazil to German raiders in the early days of the war.

Considerable aviation intelligence is assembled in convenient form by such unofficial yearbooks as *Jane's All The World's Aircraft*. The Navy's

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own large interests in aviation make all such intelligence of considerable interest.

Telecommunications

Telecommunications include telegraph, telephone, radio, television, cable, and all related services and equipment. Each type of signal has its own advantages and disadvantages of cost, availability, secrecy, range, number of channels, and so forth. While the National Security Agency is the agency with direct cognizance over intelligence in this field, earlier references to the collection of intelligence from communication sources indicate the importance of such information to all branches of the military service.

The interruption of communications in any modern state, especially a highly centralized one, can bring its national life to a standstill. Such systems thus become prime targets in war. Further, an understanding of the various channels of signal traffic is basic to maintaining the security of classified information. Therefore, knowledge of a nation's telecommunications is helpful for a variety of purposes.

Information on world systems comes from such sources as trade journals, records of purchases of new equipment from leading manufacturers, and, of course, observation and the piecing together of many bits of information.

SOCIOLOGICAL INTELLIGENCE

Sociology is the study of man and his human environment. It deals with all the phenomena arising out of the group relations of human beings. There is still some disagreement whether sociology has reached a stage of development which would entitle it to rank as a science, but it is uniformly recognized that the methods used in sociological research and the conclusions reached may be strictly scientific when based on extensive observation and careful analysis.

In the introduction to this chapter it was stated that no one of the eight components of strategic intelligence can be considered alone; they are all interdependent and closely interwoven. This is particularly true of the sociological component which is closely allied to the geographical, political, and economic, and which strongly affects armed forces, particularly with relation to man-

power. The cultural traditions of a people and their intellectual achievements based on a sound educational program, have tremendous effect on their scientific capabilities. Sociological assessment of a nation also embraces anthropological and psychological factors.

The aspects of sociological intelligence which are important to military planners are those which determine the military potential of a nation, but the analyst will soon find that his task is in no way restricted. True interpretation must weigh all facets of sociological significance, and it is impossible to ignore any of them.

The importance of sociological intelligence has never been more clearly evident to Americans than in recent years, for the understanding of foreign peoples has become essential to the successful administration of American aid programs all over the world, both civil and military. Throughout their service careers naval personnel visit many foreign ports, and those on special naval missions, stationed at bases abroad, and on attaché duty are intimately associated in their daily life, professionally and socially, with people whose culture, customs, and traditions are different from their own. An appreciation of the forces and factors which govern the behavior of foreign peoples is therefore a prime objective of sociological intelligence. All naval officers, and particularly those in intelligence activities, can with profit be avid students of sociology as it applies to the assessment of the capabilities, vulnerabilities, and probable courses of action of a foreign country.

The sociological component comprises the following major considerations: Population; characteristics of the people; religion, education, and public information; morale and public opinion; health and public welfare. A brief examination will be made of the significance of these elements in sociological intelligence.

Population

Intelligence on the population of a country is much more than a mere numerical count. To be valuable it must provide data on density and geographical distribution; classification by age groups and sex; growth or decline; immigration and emigration; future trends and government policies which affect population problems. Sta-

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tistics are given meaning through interpretation by averages and percentages, and by comparison with familiar standards. Populations in many countries of the world since World War II show marked departure from the patterns of past decades, and it has become increasingly important to obtain up-to-date information before coming to any conclusions.

Lt. Col. Robert C. White makes some pertinent observations on population change in an article entitled "Sociological Factors in Strategic Intelligence" published in the *Military Review*, November 1949:

From an intelligence standpoint, it is the increase, stability, or decline in the size of a population upon which we first focus our interest. The future size of the population of a foreign nation may be of more importance to us than its present size. Knowledge of future size will help us keep our estimate of a foreign power's war potential correct.

Consider what has been happening to the world's population in the past 150 years. We are living in a period of unparalleled (but uneven) growth in the world's population. Since 1800, the population of the world as a whole has more than doubled. This rapid, almost explosive, growth first started in Europe, where the population since 1800 has trebled. The number of Chinese and Japanese has increased greatly, also, but their increase did not commence until well after the middle of the nineteenth century. In other regions, the timing of rapid population growth has varied.

The clue to rapid population growth is to be found in the changing relationship between birth rates and death rates. Before the Industrial Revolution, high birth rates almost negated high death rates, and there was little natural growth in population. The effects of the Industrial Revolution—in raising standards of living, sanitation, and health, and therefore in reducing infant mortality and in increasing life expectancy—were felt first in Western Europe, the United States, and Canada. Therefore, the populations of these areas increased rapidly during the nineteenth century. However, in more recent decades, because of cultural changes, such as the decline of the large family ideal, for example, there has been a drop in the birth rate. Thus, the margin between birth and death rates has been narrowing. The tendencies in these areas, therefore, is for population to level off, even to decline. With the extension

of modern industrialization, sanitation, and medical care to other parts of the world, this same pattern of changing death and birth rate has appeared. Thus, China, India, the Soviet Union, and other areas more recently affected by industrialization are now in the stage of population growth that was characteristic of Western Europe several generations ago. It is likely that they, too, will in time pass into the stage of stable or even declining population.

The intelligence analyst is also concerned with a nation's labor force and available military manpower. He must know the age-sex distribution of the population, the number of males and females of a given age or within a certain age group. The labor force is found between the ages of 15 and 65, while military manpower can be derived from the number of males between the ages of 15 and 45, with particular emphasis on the 18 to 35 group. There can be considerable margin of error in these statistics if account is not taken of those who may be disqualified for either labor or military service by reason of physical disability.

The geographical distribution and density of population are further vital considerations in sociological intelligence. The density of population per square mile of arable land has much more intelligence significance than the density per square mile of total land. The concentration of population in certain areas of a country is likewise valuable knowledge. Since, for example, a sixth of the population of Argentina is located in Buenos Aires, destruction of her capital city would be a crippling blow to that country.

Population analysis (demography) requires expert understanding of statistical terms and the methods employed in the compilation of data. Progressive countries of the world have government sponsored census bureaus and keep population registers, but less than a third of the world's population has ever been officially counted or registered. Some peoples of the world are just not age conscious. An American or European child when questioned will readily report his age to the fine degree of 6½ or 13 years 5 months. In the villages of the Orient the same question will be greeted with either a blank stare or a smiling: "I don't know."

Experiences of World War II in the enlistment of women both in the Armed Forces and on the

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home front have placed new emphasis upon their contribution to the usable portion or manpower factor of a nation's total population. This brings us to a consideration of the entire situation with respect to labor in the country: wages, working conditions, organization, legislation, and control. The government policies on population control often are responsible in many countries for considerable shifts in population. The development of new industries or the exploitation of newly discovered resources can also cause internal movements of large numbers of people, and will require reassessment of population distribution.

Characteristics of the People

In studying a nation's people, the intelligence officer must identify and evaluate those racial, ethnic, and cultural characteristics which are sources of national strength or weakness. He must determine the sociological forces which cause dissension among them, resentment against the government, or susceptibility to psychological influence from abroad. The latter will be discussed fully in the section of this text entitled Psychological Operations.

Race and nationality are not synonymous terms. There is no German race or French race or Chinese race. The anthropological classification of race is in three main divisions: Caucasian, Mongolian, and Negro. These are further divided into sub-races characterized by such physical characteristics as shape of skull, color of hair or complexion, stature, facial structure, and physical vigor. Few nations of the world have a population of only one race. Most are a mixture; for example, the white population of the United States and European nations comprises a mixture of three of the Caucasian subraces, and there are many Mongolian subraces in the Chinese nation. If a country's population is composed of more than one main race, there is always a possibility of internal strife and racial discrimination. Hitler, for example, effectively used the idea of an "Aryan" super-race to develop a feeling of racial superiority among the Germans. The tragic consequences of this doctrine are a blot on the history of Europe.

Ethnic groups, another important consideration in sociological intelligence, are people bound together by ties and traits of both race and

nationality. In the United States, for example, there are large communities in various sections of the country composed of such ethnic groups as Czechs, Poles, Irish, Swedes, and Finns. Ethnic groups often maintain, at least for two or three generations even in America, the customs, traditions, religion, and language of their forefathers, and assimilation into the nation to which they have migrated is completed only after several centuries. The countries of Europe provide similar examples: the Germans of Alsace-Lorraine, the Swedish ethnic group in Finland, and the Serbs of the old Austro-Hungarian Empire. In Asia the Parsecs of India are a striking example of how a people, originally Persian, have become a force in the commercial and industrial development of the country of their chosen residence.

The presence of such groups in a nation may weaken national solidarity, or make a nation vulnerable to psychological warfare. It may also result in violent hatred and prejudice. During World War I, for example, German-Americans in many communities were the innocent victims of slander and even mob violence.

The cultural characteristics of a people are those derived from language, social structure, social values and patterns of living, artistic and intellectual expression. Differences in thinking and acting occur to the extent to which such forces control or influence collective behavior. The presence in appreciable numbers of aristocrat and peasant, clergy of strongly opposed religious sects, intellectuals, artists, and illiterates in a nation's population are significant subjects for sociological intelligence. Careful examination of these elements yields greater understanding of a people's history, customs, and traditions and is essential to evaluation of public opinion, attitudes toward foreigners, and national morale.

Religion

Religion has always been a potent force in the history of the world, and religious differences have caused much war and strife. "There is no God but Allah, and Mohammed is his prophet" became the war-cry of Moslem hosts, the bloody Thirty Years War between Catholic and Protestant armies in 17th century Europe, and in our own time the Moslem-Jewish struggle for the control of

Palestine, as well as the Moslem-Hindu riots in India and the formation of Pakistan attest to the influence religion has upon the actions of men. In many countries the constitution establishes a state religion, and religious sects are powerful political parties.

The intelligence researcher often finds the answer to problems of national attitudes by analyzing the tenets of the religion of dominant or minority groups. Religion can determine the moral fiber of a nation or it can produce social handicaps which become strategic vulnerabilities. Often a well organized church or religious group supports numerous schools at all educational levels, and makes a valuable contribution to the improvement of social conditions and the rehabilitation of social unfortunates.

Education

Education has always been a measure of progress. The strategic significance of education has become even more pronounced in this modern age of scientific and technical achievement. A nation's technical capabilities will be governed by the extent to which it can produce men and women with technical skill, and the cultural level of its people will be determined by the extent to which a spirit of scientific inquiry and academic freedom are fostered by its government and society.

Intelligence on education must be specific in order to be usable: the number of schools at all levels of education; the number enrolled and the number graduated; the curricula and teaching methods; the qualifications of faculties; the controlling and accrediting agencies; and in the field of higher education, the distribution of graduates by subject of specialization. It is important to know, for example, that a given country is producing engineers and physicists at an accelerated rate, or that there is a shortage of trained teachers in the secondary schools. Adult education by extension courses and evening trade schools must also be evaluated.

The number of students engaged in graduate study at institutions in other countries and the use which is made of them upon their return may be of great significance in a sociological estimate of a nation. This is of special interest to America,

since we have increasing numbers of foreign students attending our colleges and universities. The question is: What happens to them when they go home? Will their experience influence the thought of their fellow countrymen?

Public Information and Opinion

Intelligence interest here centers in the methods of disseminating news and the influence upon national attitudes exercised by newspapers, magazines, radio programs, and motion pictures. Are the people left free to form their opinions on what they see, hear, and read or are true facts withheld through rigid government control of the press and other avenues of public information? Do foreign publications have a wide circulation and what is the extent of any foreign propaganda in the country?

The answers to all these and similar questions are invaluable to the sociological analyst. Certainly in this field he must be constantly aware of current trends and possess sufficient background to assess them in the light of the people's history and traditions.

Health

Information for intelligence on health conditions in a foreign country is concerned not only with the health of the indigenous population but also with the effect of health and sanitation conditions upon foreign troops which may operate in the area. Environmental factors such as topography and climate, nutrition and dietary habits, plant and animal life, and the food supply situation all pose problems for the military analyst. Can an invading force live off the land? Is there an abundance of potable water? Will special installations be necessary for garbage and waste disposal or are existing utilities adaptable?

Medical intelligence has an important role to play in determining the prevalence of disease, particularly those to which an invading army would be exposed. Will extensive malarial control be necessary? Are there certain health regulations, quarantine measures, or sanitary precautions to consider? The country's medical resources must be also evaluated in terms of the number of doctors and nurses, the quantity of medical supplies,

hospitals, and medical training, research, and development.

Public Welfare

The status of public welfare in a country is an important element in sociological intelligence because it so directly affects the happiness and mental attitudes of the people. The standard of living, housing, and opportunities for gainful employment are factors which must be considered. Sweden, for example, has no slum areas in her large cities, and her government's achievement in providing clean and comfortable housing for the worker is notable. It has been attained, however, only through high taxation, and many a Swede is unhappy because of the tax drain on his pocket-book. As a result, it may be easy for him to forget the great benefits to himself and to the nation which accrue from high standards of public health and sanitation.

The evaluation of a standard of living is no easy task for the analyst, for the peoples of different countries do not place the same value upon certain human comforts and possession of certain advantages. The average American family needs an automobile; many Europeans consider the possession of one not only unnecessary, but even a great nuisance. We put ice in our drinking water and keep our beer in the refrigerator. The average Britisher does not like either water or beer that cold. Comparison of wages in different countries has meaning only when such wages are expressed in terms of their buying power within each country. A dozen eggs in one country may represent 5 hours of work by a machinist, while in another country a machinist would have to work only 1 hour to earn enough to buy 3 dozen eggs. Other commodities, however, may be so much more expensive in the latter country that the machinist may not enjoy as high a standard of living as he would in the country where eggs are dear. Assessment of living standards, therefore, cannot be based on limited observations, but must be made from averages over periods of years, and evaluated in relation to the entire socio-economic situation of the nation.

Unemployment will always create problems for a nation. Crime has a higher incidence, and dissatisfaction with the existing government grows

with the misery of the unemployed. Communism feeds upon such conditions. Employment, of course, brings prosperity and its attendant comfort and happiness.

The manner in which a foreign country has met its public welfare problems is an indication to the analyst of strength, vulnerability, and morale. A people who enjoy social security and a happy daily life are not good subjects for propaganda influence from without, and they will combat any effort to change their satisfactory status, even to the point of armed resistance.

Sociological intelligence is a fascinating field, and deserves more than the summary treatment it has received above. The intelligence officer should consider the aspects so briefly discussed as an introduction and inspiration for more intensive reading and study. The philosopher's observation that "the most interesting thing to man is man" has real significance in intelligence, and the study of foreign peoples in relation to one's own sociological heritage has its reward in furthering the cause of international understanding and peace.

POLITICAL INTELLIGENCE

Political intelligence on a foreign country is an evaluation of the effectiveness of its government in achieving the national objectives of its people, both domestically and in foreign relations. It is an assessment of the political strength and international influence of the nation in respect to unity, stability, and efficiency, as well as the determination of the degree to which its government represents the will of the people. The political component of strategic intelligence is closely associated with the sociological and economic, for government exercises a profound influence on the economic and social life of a people, and conversely its nature is to a large extent established by economic and social forces.

The purpose of this section is to delineate the elements essential to a political estimate of any foreign country: the constitutional system, governmental structure, political dynamics, national policies, and the way in which its government provides for public order, safety, and security, controls subversive activity, obtains intelligence, and disseminates information.

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The Constitutional System

Governments derive their powers from constitutions or codes of laws which set up the basic framework and describe the rights and privileges of the individual citizen. A constitution is not necessarily a single written document. The British "constitution," for example, is largely an unwritten code built upon custom and usage. A consideration of the constitutional system of a country begins with a study of its origin and development. What political, economic, or social groups dominated political thought at the time of its adoption? To what extent does it reflect the public opinion of that time? Oftentimes the circumstances under which a constitution was formulated endow it with lasting respect and authority. The principles of a constitution in theory are often quite different from its principles in practice. Attention must be given to its flexibility and the ease with which it can be amended. Have there been disagreements as to its interpretation? What economic and social provisions does it contain? Are there any unusual provisions? The American Constitution, which establishes executive, legislative, and judicial branches of government, has served as a model for constitutional systems of later origin in all parts of the world, but in various countries, the powers granted to the different branches and the rights of citizens will vary widely. In some republics the chief executive may be a mere figurehead; in others he may have dictatorial power. Prime ministers often exercise much more leadership and have greater responsibilities than kings. The office of prime minister can be most precarious for it is usually dependent upon the support of a majority in the legislature and failure is followed by the resignation of the prime minister and his cabinet.

Legislatures will vary in composition and effectiveness. When two houses are provided for by the constitution, one may be more advisory than legislative in function, and it may have a history of gradual weakness, such as the House of Lords in Great Britain. The Senate of the United States, on the other hand, has always had more power and prestige than the House of Representatives, but the Speaker of the House can succeed to the Presidency.

A strong judicial branch of an established gov-

ernment will exercise tremendous influence in maintaining the spirit of the constitution, even though its interpretations will reflect the country's economic and social changes. The strength of the judiciary will usually be determined by its independence of thought and action insofar as it can resist political pressure and the lobbying of special interest groups. The confidence of the people in government is largely controlled by the judgments of the courts when their powers are exercised in a way that is an effective check on both executive and legislative branches.

The civil and religious rights of citizens guaranteed by the constitution are important considerations in a political estimate, not only in theory but in practice. Freedom of speech, press, religion, and the rights of assembly and trial by jury so dear to the American citizen do not find exact counterparts in the constitutions of all other countries. Important also are the rights and privileges extended to foreigners in the country. Can they move about freely, and engage in business enterprises with the same protection accorded to nationals? The Americans are very jealous of their "constitutional rights" and justly proud of their political heritage. The analyst must make an assessment of the presence or absence of similar feelings among foreign peoples and the extent to which they would tolerate any abrogation of particular political rights.

Structure of the Government

The consideration here is of organization and procedure in central, regional, and local government. It is an evaluation of the government in operation. Are there any conditions or situations which have required special organizations or operations by the government and are practices at variance with the provisions of the constitution? What are the major agencies of each branch of the government and how do they operate? What are the significant features of regional and local government organization? Often an understanding of the political forces of local government is essential to the evaluation of the government as a whole.

Many countries have colonies or dependencies which must also be examined in their relations to the mother country, including their own governmental structure. International relationships

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such as participation and membership in the United Nations Organization or any regional pacts may have important influences on a political system through the creation of special commissions. The operations of such agencies can have a decided impact upon internal affairs as well as formulate national attitudes toward other countries and increase support for cooperative endeavors.

Political Dynamics

The extent to which the people participate in political activity, their fitness for political responsibility, the sources of political power, the electoral and political party systems are some of the main factors to assess in a political estimate of a foreign country. The major political parties must be evaluated, taking into consideration their membership, program or special interests, organization, and methods of propaganda.

Throughout his study of these aspects of political life, the analyst will find that comparisons with American counterparts will give meaning and perspective. He cannot merely ascertain the constitutional framework which sets up the party system, but must note actual practices, both historical and current. Pressure groups within parties, lobbying tactics, the amount of money available and expended for promotional purposes, and the manner in which the objectives of such pressure groups affect American interests are essential considerations.

The biographic component of strategic intelligence is here effectively applied. The personalities, qualities of leadership, and motivations of prominent politicians will provide the answer to many problems of changing political influence.

National Policies

The intelligence significance of knowledge of a country's domestic and foreign policies will be made apparent in succeeding chapters in their discussion of the economic, sociological, and political factors which determine a country's position in the community of nations. The interplay of these factors will be shown in the examination of United States foreign policy and the relationship of party and government in the U. S. S. R. Detailed treatment of important elements of national policy is therefore superfluous here.

Suffice to say, military intelligence is particularly concerned with those policies pertaining to national defense and their influence on domestic and foreign policies. Are the military establishment and civilian lawmaking bodies in agreement on what defense policies should be? To what extent do the various branches of government influence or decide defense policies? What is the popular reaction to defense policies? Do the people accept rearmament programs, conscription, food rationing, and production controls with fortitude or do such defense measures result in much grumbling, support of black markets, or actual rebellion?

Again the influence of individual leaders, both within their own party and on the populace as a whole, can be studied with profit.

Public Order and Safety

Within the scope of political intelligence are those organizations which maintain public order and safety, that is, the police and penal systems. Is the police system adequate in size, well-organized at all levels of government, and effective in protecting citizens against lawless elements of society? The strategic analyst would also be concerned with the morale of the police force, the integrity of law-enforcement officers, and the extent to which the system is susceptible to political influence. If the police of a large city, for example, are controlled by a certain politician and used for furthering his political ambitions, the fact should be carefully noted. The attitude of the average citizen towards law enforcement is also significant.

Consideration of the penal system would include not only its organization and operation, but also criminal codes, trial procedures, incidence of crime, conditions in prisons and reformatories, and the effort made by social forces in the country to rehabilitate felons and juvenile delinquents. In this respect there is considerable overlapping of the political and sociological components.

Subversive Activity

Active or latent subversive groups in a country are exceedingly important factors in the assessment of weaknesses in its political system. The presence of subversive activity in political parties,

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labor organizations, or government agencies can profoundly affect the operation of the political, economic, and social forces of the nation. In recent years we have seen the results achieved by Communist subversive activity in Poland, Czechoslovakia, Hungary, and Rumania. We have also seen in the case of Italy, how a people aroused to its menace can keep Communists from obtaining control by defeating them at the polls. The extent to which subversive elements have penetrated or infiltrated a country is thus the analyst's concern. He must identify the subversive groups and show how they operate. An innocuous appearing society for the improvement of cultural relations with the U. S. S. R., with a membership of several thousand students, may well be the front organization of a growing Communist Party, the ultimate objective of which is the overthrow of the existing political system.

The peoples' attitude, their traditions, and the economic and social conditions which foster subversive groups must be taken into account. If, like the Gallic tribes of Julius Caesar's time, they are "conspiring among themselves and eager for revolution," intelligence upon the nature, potential strength, and leadership of such groups is essential. Finally, an estimate must be made of how subversive activity of any kind may affect the policies of the United States and other world powers towards that country.

Intelligence System

The United States intelligence system and the development of intelligence activity in other countries of the world have been fully treated in preceding chapters of this text, and are indicative of the scope of the information required. What is the mission of each intelligence agency? Are funds available for effective operations? What is the public attitude towards intelligence activities? What is the relationship of the various agencies, their methods of operation, and who are the key figures in their personnel?

Propaganda

Political propaganda may be defined as the dissemination of information or ideas designed to influence the political behavior of the people of a country by affecting their beliefs or attitudes con-

cerning facts or values. It may be either direct or indirect in approach. The source of control may be located in the country itself, such as at the permanent headquarters of a political party, or it may be directed from outside the country, as for example, in the case of Kremlin control of propaganda in a satellite country.

For strategic intelligence purposes the assessment of political propaganda emphasizes an evaluation of its effectiveness. How much distortion of fact will the people accept? It will depend, of course, on the degree to which they have opportunity for becoming aware of the true facts. In a country where the party in power maintains rigid control of press and radio the people may be kept completely in the dark. If freedom of speech is a jealously guarded national heritage, the people will be more enlightened and better educated politically. Propaganda may then be recognized for what it is and may have to be disseminated through more subtle media and by more indirect means.

Political propaganda is never more clearly evident than in an election campaign. The analyst can learn much from a careful study of the campaign speeches of leading candidates of opposing parties. Often a clever slogan or sobriquet has a tremendous psychological effect.

The effectiveness of the propaganda factor in political intelligence can only be evaluated by consideration of certain sociological aspects of the nation, particularly those discussed in the preceding section entitled "Characteristics of the People." Good propaganda will always exploit the racial, ethnic, and cultural elements of which national character is composed.

The principles and techniques of propaganda will be treated more fully in a later section dealing with psychological warfare.

Political Factors in Strategy

The ultimate purpose of strategy is to make it possible for a nation to approximate its basic goals. Its intentions, which are derived from these goals, are influenced by a variety of political factors. Inevitably, therefore, strategy is affected by the same political considerations. Initially, of course, those responsible for formulating national strategy must choose objectives which are

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in accord with the basic goals of their own nation and with those of its allies. Thereafter, political factors must be considered in such matters as estimating the dimensions and timing of war preparations by a nation and its allies, considering the extent of possible losses by the military forces which might be acceptable at any given time, and selecting instruments of war and the use to be made of them. Conversely, in connection with the capabilities of the enemy, consideration must be given to the effect of political factors on his own strategic planning and how these factors may cause him to react to a state of war or measures short of war.

Mr. Chester Wilmot, eminent Australian journalist, has advanced the thesis that much of the tension following World War II might be attributed to a failure to take political factors into account in strategic planning. He has suggested that military strategy is affected both by political factors as they develop and by long term political objectives. By way of illustrating the influence of political factors he has cited the Mediterranean campaign of 1943 and the strategic decision of the allies to invade Italy. A decision to land troops on the Italian coast appeared advantageous because of the enemy's inferior military strength. In addition, however, such a decision was made more attractive because Mussolini's political strength had become seriously impaired by 1943 and represented a real weakness in the Axis partnership. Thus developing political factors, when combined with the military situation, materially supported the decision made.

In illustrating the importance of considering long term political objectives in the planning of strategy, Mr. Wilmot has suggested that a great political advantage could have accrued to the western allies in the post-World War II period had they, rather than the Soviets, liberated Berlin, Prague, and Vienna. A significant power advantage might have been retained in Germany, even if Berlin had been given up later as a result of zonal agreements. The effect in Czechoslovakia might have been even greater. The mere presence of the Red Army in Prague became a source of material strength to the Czech Communists and undoubtedly affected the negotiations conducted between the Benes government and the Soviet

leaders in Moscow in June 1945. Mr. Wilmot's point is that the decisions which resulted in the halting of the allied advance into Germany and Central Europe might well have taken into greater consideration the possible progress of events *after* the war was over.

These illustrations suggest the importance of political intelligence and the variety of tasks which must be performed in connection with it. Since military strategy and politics are inseparable, the naval intelligence officer must understand the significance of politics in military decision.

ECONOMIC INTELLIGENCE

Economics, simply defined, is the study of how people make their living and satisfy their material wants. Economics thus represents a very sizable part of total activity, for most people are destined to spend the majority of their waking hours either earning their living or spending what they have received. Economics in practice is much broader in application than the definition first suggests because we live in organized societies, and therefore as a social science, economics is concerned with group behavior. As a discipline, economics attempts to explain and interpret this behavior and predict its consequences. Economic laws, like other social laws, are tendencies and trends, and thus the precise answers and controlled experiments common to the physical sciences are lacking in economics because of the difficulty in measuring all significant variables. The result is that the applications of economics in the field of intelligence may be ineffective or even dangerous in the hands of one who is not well grounded in its principles and who is unaware of the pitfalls in the use of data and concepts.

Economic intelligence is concerned with the collection and processing of information relating to the extent and utilization of natural and human resources and the industrial potential of nations. Economic military intelligence is not a delimited part of the larger field; rather it is a viewpoint that gives full regard to the military implications of economic events. Specifically, this means that we want to know how strong other countries are—the limits to their economic capabilities for making war; also whether they are preparing for war and the extent of such preparation; and, finally,

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their economic vulnerabilities. When the need arises, such weaknesses may be attacked by military means or by the techniques of economic warfare.

Sources of Economic Intelligence

The Department of Commerce, Office of International Trade, receives reports from commercial attachés and consular agents all over the world. Its commodity and area specialists review large numbers of foreign periodicals and other reports in order that both private individuals or concerns and government agencies may have the best possible information on conditions abroad for conducting business affairs. The State Department also has extensive interests in economic intelligence since its consuls do so much of the collecting, but some of its direct collection responsibilities have been reassigned to other agencies, particularly special types. The Tariff Commission is interested in foreign costs of production, foreign tariffs, and trade restrictions. The Treasury and the Federal Reserve Board are concerned with monetary and fiscal developments. The Departments of Agriculture and Labor are active in their respective fields and have some representatives in our diplomatic missions overseas. Private agencies also have specialized interests in particular fields of economic intelligence and prepare reports used by business men. For example, some are concerned with petroleum, mining, construction, electric power, foreign trade, manufacturing and, of course, transportation and communications which have been treated separately. Some of these private concerns do a very thorough job within their own fields. Even such popular magazines as *Fortune* and the London *Economist* make notable contributions in the reporting of foreign developments.

The military services have the responsibility for filling any gaps in the economic intelligence they need for their own planning, and the task of tapping what is already available in order to apply it to their own ends.

Primary Military Interests In Economic Intelligence

Military intelligence has the responsibility of keeping track of any change in economic factors that affect a country's ability to wage war. These

include new discoveries of mineral deposits, new crops and changing methods in agriculture, new industrial processes that affect the demands for labor and material and affect output and costs, changes in business, labor, and government that react on efficiency and allocation of resources, trends in capital investment, new depreciation and tax policies, trends in the price level, bank reserves, and inventory levels.

Preparations for war become important to watch in an age when a sudden attack can be so crippling. Economic intelligence may well give warning of such action, for industry must also be mobilized for war. Clues may be provided by the stockpiling of critical materials, the development of higher cost substitutes and synthetics for what normally is imported, and conversion of civilian industry to the production of war goods. Such clues need coordination with political intelligence to determine motivation. Since some economies are at all times regulated by the government and "mobilized," the detailed study of all changes in their regulations, priorities, and allocations may produce important leads in judging modifications of plans or timetables for military actions.

Study of economic vulnerabilities is continuous also, for a dynamic economy is faced with changing pressures and shortages. Especially when a war becomes hot, and military action and economic warfare are modifying the enemy's economy, a close watch is essential so that counteractions will have maximum effect. Considering the wartime hazards to collection, such an assessment will be possible only if a prior basic analysis was prepared when there was time to gather and assess the original set of facts.

Analytical Criteria

Assessment of economic data must include the application of many different criteria, all of which are important, such as the study of particular industries with their problems of production and pricing; the whole fiscal and monetary system with questions of the price level, savings, investment, and employment; the problems of ownership and income distribution; the problems of consumption and of institutions. Micro-economics with its attention to supply and demand of particular

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commodities and its concern with competition, monopoly, and monopolistic or monoposonistic competition is best known to the beginning student. Macro-economics is more recent, but offers some singularly effective analytical tools for intelligence purposes. The approach is in terms of the interactions of particular events on the economy as a whole. Some of the most useful results are apparent in the national income accounting analysis done by the Department of Commerce. In effect it is the old "Tableau Economique" of Quesnay brought up to date to combine modern accounting procedures with present economic thinking into a large number of mutually supporting tables. The intelligence significance is that even if a foreign country tries to hide its activities almost anything that it does in the economic sphere will have repercussions that will leave telltale signs. If it tries to hide much basic information, such data may be derived anyway by analytical techniques that have been developed so fully in the last decade or so in the United States. Some of them are highly complex and lie beyond the scope of this study, but their importance is not to be minimized. This suggests that the requests for certain types of economic data which may mean little to the layman frequently include keys to very big secrets. Therefore, the economic data collected by naval attachés or observers abroad may be ultimately as important as information on strictly naval subjects.

European Illustrations

Hitler's *Mein Kampf* made clear his political views and intentions long before he came to power, although its significance was not seen by the public at large. Once the Nazis came to power, however, economic intelligence disclosed German preparations for war. Economic regimentation began as early as 1933, with many telltale signs. State-directed planning was the rule, and heavy arms orders were fed to industry. Labor was mobilized through the Deutsche Arbeitsfront and the production of civilian goods was progressively reduced. The conquest of Czechoslovakia was an important addition to German economic potential because of the acquisition of the Skoda works and an additional labor supply. German ingenuity went to work on developing substitute materials for those that would be cut off by war. All of these de-

velopments pointed to a growing capability of carrying on a major war effort. The success of German preparations was indicated by the length of time they were able to fight against a coalition of nations numerically and industrially stronger.

One of the most interesting exploits of economic intelligence involved the German oil industry. Especially after the dissolution of her friendship pact with the Soviet Union, Germany had only the Rumanian Ploesti fields and minor wells in Hungary and Poland as sources of petroleum. To take the place of natural petroleum, German chemists had developed new processes for extracting oil and gasoline from coal, which brought costs down to a fairly reasonable level. It was natural that the strategic nature of these German automotive fuels prompted special attention by allied intelligence and target specialists and it became most important that attacks be centered on all facilities of the industry to paralyze German transport and aviation. Planners remembered well that in World War I German transport came to a halt because of a shortage of lubricants. Some excellent intelligence on German oil facilities came from secret sources, but the most accurate and complete was obtained from the Germans themselves. German rail tariffs, like our own, include not only class rates but specific commodity rates on a place to place basis. In order to subsidize the vitally needed synthetic oil industry, special commodity rates were set up for each oil refinery. Just as in America, German law required that these rates had to be published, and the Germans methodically printed such information in rate bulletins and in an obscure technical traffic magazine. Allied intelligence subscribed to this magazine through a Swiss address, and regularly found each new secret oil refinery listed with information as to the opening date for the new rates. It was then a simple matter to pinpoint the facility on the map and destroy it by bombing. Before the war was over, German aircraft were grounded in considerable degree by the shortage of fuel.

Less successful were Allied attempts to cripple Germany's ball-bearing industry which was being augmented by supplies from neutral Sweden. The British, too, were getting considerable quantities of Swedish ball bearings, but attempts to buy up the entire production were unsuccessful. The

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Swedish SKF concern had expanded facilities, and deliveries were being made to Germany in return for safe conduct to Swedish ships bringing in essential imports to the homeland. Some of the most spectacular and costly Allied air attacks deep in Germany were aimed at destroying ball-bearing plants, notably at Schweinfurt, but the chief objective was not gained. Germany restored production much more rapidly than anticipated and redesigned her war equipment to require fewer bearings. The war was almost over before the Swedes were persuaded to cut off further shipments, and by that time ball bearings were no longer a determining factor in the German war effort. The whole experience illustrated the importance of correct assessment of economic intelligence as well as its collection.

German economic intelligence about the Allies was fairly good, notably in the data collected on Allied ocean convoys. Due to censorship leaks, secret radio broadcasts, and marine insurance re-insured in neutral countries, German U-boats were frequently able to pick off the most critical ships in our convoys with disastrous results. It took considerable effort to minimize these leaks.

Pacific Illustrations

Japan's military ambitions were made clear not only through the controversial "Tanaka Memorial," the activities of the Black Dragon Society, and the attacks on China, but also from economic intelligence. Some fundamental changes in the Japanese economy were noted and set forth in a Harvard University study by Mrs. E. B. Schumpeter (et al.), *The Industrialization of Japan and Manchukuo*, that appeared just before the war. Although this was a study based on overt sources for public purposes, it revealed for the first time considerable detail on changes in the Japanese economy. In 1937, as a war measure, the Japanese had banned the publication of all economic data; they were aware of its great significance. A great void developed in year books, trade returns, periodicals, and industry publications. In fact, they were so successful in hiding information that their own planning was hampered, and postwar search of Japanese government records indicates that many vital economic records were not even maintained, and thus represent gaps that

interfere with analyses of Japan's position. The Schumpeter study did reveal, despite the incompleteness of data, that the Japanese economy was switching from primary dependence on export production of such items as textiles and ceramics to heavy industry, chemicals, and instruments, all needed for war purposes. Further, the study revealed that Japan had been converted during the late 1930's from an island kingdom to a continental power, for much of the new industry was located in Korea and Manchuria.

In passing, the pitfalls of jumping at too easy conclusions are evident in connection with postwar Japan. That defeated nation, hard hit by war and with shrunken boundaries, has faced major dilemmas. Some people have advocated concentration on light industries that use labor rather than imported raw materials, and thus minimize balance of payment difficulties. Unfortunately, however, from the Japanese point of view, these are the very industries being developed by the nations which are the chief potential markets for Japanese goods, so a weakened Japan, unlikely to be a military threat, is developing heavy industries whose production will outstrip that achieved during the peak of her militaristic period. This has American encouragement. The military intelligence assessment cannot be based upon economic data alone, as these economic facts of the new Japan must be linked to political and geographic changes both in Japan and in the world as a whole before they attain real meaning.

Current Problems

Some details of the Soviet economy will be presented later. Economic intelligence today from that area must be based on careful analysis of open Soviet broadcasts of information, statements in the Soviet press, study of Soviet foreign purchases, "Wringer" reports from all kinds of persons who have been behind the Iron Curtain, and such limited observations as diplomatic personnel are allowed to make. What of Soviet activities here? We know that for a long time Soviet purchasing agents were able to tour our factories and buy our patents. The volume of economic data published by both government and private concerns is so tremendous that little is hidden, and that fact itself may give us partial protection because it

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places a heavy burden of analysis on the Russians. Could we hide information from them? Undoubtedly, there are many particulars easy for them to collect, but it should be emphasized that analytical techniques today are such that the hiding of the broad facts of our economy from the enemy would require repressive measures incompatible with the efficient operation of a private enterprise economy. Hiding facts from ourselves could seriously cripple the planning and pricing activities of American businessmen. A competitive system is presupposed in economic analysis to be one with freedom of information. In conclusion, then, short of radical security measures, the United States must be reconciled to losing more information to totalitarian enemies than it gains, but much can be gained through intensive exploitation of available sources and careful analysis.

TECHNICAL AND SCIENTIFIC INTELLIGENCE

The developments in military science which have been produced in recent years by science and technology constitute but one aspect of the profound change which the industrial revolution has caused in the environment of modern man. B. H. Liddell-Hart, the British military expert, analyzes the subject in his book, *The Revolution in Warfare*:

Science and technology have produced a greater transformation of the physical conditions and apparatus of life in the past two hundred years than had taken place in the previous two thousand years. Yet when men turn these tremendous new powers to a war purpose, they employ them as recklessly as their ancestors employed the primitive means of the past, and they pursue the same traditional ends without regard to the difference of effect. Indeed, the governments of modern nations at war have largely ceased to think of the postwar effects which earlier statesmen were wise enough to bear in mind—a consideration which led in the eighteenth century to a self-imposed limitation of methods. Modern nations have reverted to a more primitive extreme—akin to the practices of warfare between barbaric hordes that were armed with spear and sword—at the same time as they have become possessed of science-given instruments for multiple destruction at long range.

The revolution in warfare has thus been two-sided—on the one side, in the instruments,

the technique of warfare; on the other side, in the character of warfare.

Technical and scientific intelligence are directly concerned with the “instruments and techniques” in which so profound a change has taken place. Consideration of a new instrument, or weapon, is meaningless without taking into account the conditions under which it is to be used and the method of its employment.

To match the increased speed and scope of war, scientific research and development were, during World War II, expedited as never before, and in this postwar period of world tension they continue to be pressed with the greatest possible urgency, particularly in the fields of atomic energy, jet propulsion, and guided missiles. Technical and scientific progress continue to force the revision of ancient and time-tested military concepts, and to dictate even more revolutionary changes in the design of ships, planes, and tanks which formerly embodied those concepts. Intelligence of a new weapon originated by an enemy perforce leads to feverish efforts to develop a counterweapon, in which the enemy in turn is vitally interested. Tactical surprise, which in earlier wars had been achieved by novel dispositions of armies and fleets, was in World War II gained also by the unleashing of new weapons such as the atomic bomb, and by improvisation, such as skip bombing, in the employment of weapons already developed. Never before have the twin qualities of flexibility of mind and the ability to gaze intelligently into the crystal ball of the future been so vital to military men and to the political leaders to whom the security of the nation is jointly entrusted.

Science and technology were placed at the disposal of the ground, sea, and air forces of the United States during World War II, and in many cases new weapons and items of equipment designed for one specific branch of the armed forces were adopted by the others as well, or were fitted to the needs of more than one service. For example, new aircraft went to both Army and Navy to be used for different tactical purposes, and the principle of rocket power was used by the infantry in the form of the bazooka, and by the Navy for antisubmarine warfare and for strafing enemy positions by LC(R)s; both Army and Navy em-

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ployed rocket-equipped aircraft. The VT fuze was utilized as an antipersonnel weapon by the Army and as an anti-aircraft weapon by the Navy. Therefore, it is advisable not to consider the technical and scientific category of strategic intelligence from the specialized viewpoint of but one branch of the armed forces. Although we are concerned primarily with naval strategic intelligence, the technical and scientific component embraces the contributions of research and development to land, sea, and air power.

Definitions

The official Navy definition of the technical and scientific category of strategic intelligence is sufficiently broad to permit a general discussion. In terms of Naval Intelligence, technical and scientific intelligence is defined as:

"Disclosing the development of new materials, techniques, and munitions of war."

The words "technology," "science," "research," and "development" are too well known to require definition, as are the adjectives derived therefrom. However, it is advisable at this point to break down the term "scientific research" into three parts, and to define each of them. These three parts are:

1. Pure research.
2. Background research.
3. Applied research and development.

For definition of these phrases we turn to appendix 3 of *Science: The Endless Frontier*, a report to the President, dated July 1945, by Vannevar Bush, wartime Director of the Office of Scientific Research and Development:

1. *Pure research.*—Pure research is research without specific practical ends. It results in general knowledge and understanding of nature and its laws. This general knowledge provides the means of answering a large number of important practical problems, though it may not give a specific solution to any one of them. * * * The unpredictable nature of pure science makes desirable the provision of rather special circumstances for its pursuit. Pure research demands from its followers the freedom of mind to look at familiar facts from unfamiliar points of view. It does not always lend itself to organized efforts and is refractory to direction from above, in fact, nowhere else is the

principle of freedom more important for significant achievement. . . .

2. *Background research.*—The preparation of accurate topographic and geologic maps, the collection of meteorological data, the determination of physical and chemical constants, the description of species of animals, plants, and minerals, the establishment of standards for hormones, drugs, and X-ray therapy; these and similar types of scientific work are here grouped together under the term background research. Such background knowledge provides essential data for advances in both pure and applied science. It is also widely used by the engineer, the physician, and the public at large. In contrast to pure science, the objectives of this type of research and the methods to be used are reasonably clear before an investigation is undertaken. Thus, comprehensive programs may be mapped out and the work carried on by relatively large numbers of trained personnel as a coordinated effort. . . .

3. *Applied research and development.*—Applied research and development differs in several important respects from pure science. Since the objective can often be definitely mapped out beforehand, the work lends itself to organized effort. If successful, the results of applied research are of a definitely practical or commercial value. The very heavy expenses of such work are, therefore, undertaken by private organizations only in the hope of ultimately recovering the funds invested. . . . The distinction between applied and pure research is not a hard and fast one, and industrial scientists may tackle specific problems from broad fundamental viewpoints. But it is important to emphasize that there is a perverse law governing research: Under the pressure for immediate results, and unless deliberate policies are set up to guard against this, applied research invariably drives out pure. The moral is clear: It is pure research which deserves and requires special protection and specially assured support.

The Time Element in Research and Development

The importance of scientific progress, which depends on basic scientific research, to our Nation in time of peace and war is summed up by Dr. Bush in his report as follows:

Progress in the war against disease depends upon a flow of new scientific knowledge. New products, new industries, and more jobs require continuous additions to knowledge of the laws of nature, and the application of that

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knowledge to practical purposes. Similarly, our defense against aggression demands new knowledge so that we can develop new and improved weapons. This essential new knowledge can be obtained only through basic scientific research.

Science can be effective in the national welfare only as a member of a team, whether the condition be peace or war. But without scientific progress no amount of achievement in other directions can insure our health, prosperity, and security as a nation in the modern world.

Dr. Bush, in the above quotation, states that a form of warfare, war against disease, continues, in peacetime, and that our security against aggression by other powers is intimately bound up with our prosperity and our national health. Research specialists in the medical field may be said to be intelligence officers of a certain kind, to whom the qualities of alertness, thoroughness, patience, and imagination are as essential as they are to military intelligence specialists. Now more than ever must scientific research specialists coordinate their effort with military intelligence specialists, in view, of the susceptibility of all nations to sudden attack directed against centers of population and industry. Developments in aircraft and guided missiles have increased the range and speed of delivery of atomic bombs and toxic warfare agents. Thus scientists as well as specialists in strategic intelligence may be said to be today in our first line of defense.

Not only must the state of our own scientific research and development be of interest to us, but we must also disclose, as promptly and completely as possible, the trends and achievements of scientific research and development in potential enemy nations. In his report, Dr. Bush emphasizes the time element in modern war, and the necessity for peacetime scientific preparedness:

The bitter and dangerous battle against the U-boat was a battle of scientific techniques—and our margin of success was dangerously small. The new eyes which radar has supplied can sometimes be blinded by new scientific developments. V-2 was countered only by capture of the launching sites.

We cannot again rely on our Allies to hold off the enemy while we struggle to catch up. There must be more—and more adequate—military research in peacetime. It is essen-

tial that the civilian scientists continue in peacetime some portion of those contributions to national security which they have made so effectively during the war. This can best be done through a civilian controlled organization with close liaison with the Army and Navy, but with funds direct from Congress, and the clear power to initiate military research which will supplement and strengthen that carried on directly under the control of the Army and Navy.

During peace, the time element in our own scientific research and development is closely related to the time element in obtaining strategic intelligence of scientific progress in other countries, in precisely the same way that the two were related during the war recently concluded. Furthermore, internal security and counterintelligence, as applied to technology and science, are of continued importance.

In World War II the deliberate and planned violation of security which took place in connection with the atomic bomb was the disclosure to the world of the fact that it existed and that it worked. Security was also relaxed in connection with the VT fuze, one of the important new weapons produced by the Office of Scientific Research and Development. As in the case of the atomic bomb, a significant factor was the time element. Originally, the VT fuze had been allocated only to the Navy because of the possibility that the enemy might learn the secret if VT fuzed shells were fired over land. However, in the autumn of 1943, it became necessary to use VT fuzed shells for the protection of London and port areas in southern England which were eventually to serve as major staging areas for the Normandy invasion.

The details of this situation are described by Dr. James P. Baxter III in his book, *Scientists Against Time*. Highly secret information received by the Allies indicated that the Germans intended to employ robot bombs against England. Some months before any were used, however, a detailed description of the new buzz bomb became available to OSRD. With this information, it was possible to construct a duplicate of the new German bomb and to conduct intensive tests. These tests revealed that the buzz bombs would activate the VT fuzes and that certain models of these fuzes could be effectively employed against the bombs. As a result of this new information

developed by careful research, a high level decision was made to utilize VT fuzes as a means of aiding in the protection of the threatened areas of England. This emergency decision made available a helpful countermeasure which was ready for use in ample time. The urgency of the situation and the time element dictated the decision.

The importance of the time element in the grand strategy of the Allied Nations in 1942, and the reasons for selecting Germany as the main target for attack instead of Japan, were explained by Secretary of War Patterson in an address before the American Chemical Society, 8 April 1946. In his speech the Secretary gave the following reasons for assigning priority to the European War:

One was to take advantage of the concentration of forces. Russia was fighting Germany, but not Japan. Another was the shorter distance to Germany; the shorter distance meant shorter time in getting into action. But the reason that seemed to me as compelling as any was the danger of the German scientists, the risk that they would come up with new weapons of devastating destructiveness. There was no time to lose in eliminating German science from the war. There was no comparable peril from Japanese science.

The wisdom of this decision is seen now in retrospect when we ponder the remarkable advances made by German research and development in the latter half of World War II, particularly with respect to rockets, jet propulsion, and guided missiles. The race for new weapons and counterweapons was ultimately won by the Allies, largely because of better mobilization and organization of scientific brainpower and because of greater armed might and industrial capacity, but the margin was close.

The secret of our success in developing many new and improved types of weapons and equipment during World War II, and producing them in quantity and delivering them in time to be effectively employed against the enemy, lies in the coordination of our scientific and industrial potential, in close cooperation with the armed services. Our top strategic planners allocated materials, scientific brainpower, and industrial competence in accordance with priorities dictated by the overall grand strategy, and, by means of technical and scientific intelligence, kept abreast of scientific

research and development in enemy countries, and assessed the performance of our new weapons in action as they were developed.

The Technical Intelligence Center and Missions

The vital interest of the Office of Naval Intelligence in technological and scientific fields led to the establishment of the Technical Intelligence Center to deal with foreign technical subjects, including ordnance in all its phases, electronics, naval vessels and merchant ships and their characteristics and equipment, chemicals, synthetics, medicines, and aircraft (in collaboration with the Technical Air Intelligence Center).

During World War II the Technical Intelligence Center had a dual purpose:

1. To keep the strategic and operations planners and the Navy at sea and in forward areas informed at all times of such technical developments on the part of the enemy as might affect operations, tactics, or planning in any phase of the war.
2. To make available to bureaus of the Navy and other interested technical and scientific activities any information on foreign technology which might lead to development of effective countermeasures on our part, the perfection of Allied weapons, or the evolution of new materials and techniques.

The Technical Intelligence Center profited by constant use of all the normal sources of intelligence within and outside the country. Of unusual significance was the detailed interrogation of captured personnel, particularly those with scientific or technical background, with the Center itself conducting an examination of some of the most important prisoners.

In maintaining liaison with other technical activities, the Technical Intelligence Center was responsible for directing the collection of specific items in fields of intelligence of extraordinary importance to American scientific research and development. To this end, the center coordinated the activities of our naval representatives abroad, particularly those of naval technical missions eventually established first in Europe and later in Japan.

With the successful invasion of the European continent on 6 June 1944, and the advance of

Allied forces into the German homeland, the exploitation of German technical developments for possible use against Japan became a project of urgent importance in the final phase of the European conflict. The determination of the nature and extent of German technical aid to Japan was in itself a project of vast significance. Strategic planners recognized that the rapid exploitation of this project, with correspondingly efficient development of countermeasures, might affect to a marked degree the duration of the war. There, the naval technical mission in Europe, working from lists of intelligence targets of prime importance, was assigned the job of investigating and reporting on German technology; the Technical Intelligence Center in Washington coordinated the activities of the mission and assured proper distribution of its discoveries and reports. The detailed operation of NavTecMisEu teams in the European theater was an interesting and exciting chapter in the history of Naval Intelligence. The successful examination of German industrial plants, the painstaking and difficult search for records and files which were often partially destroyed or buried in cellars, and the continual and often dangerous hunt for key personnel by teams which travelled by air, train, jeep, and even on foot, resulted in an exceedingly valuable and comprehensive record of German technological efforts.

While the Japanese war ended too quickly thereafter for the United States to put into effect the countermeasures which resulted from this thoroughgoing investigation, the advantages accruing to the American military and to private enterprise from a careful digest of German research, developments, and techniques can hardly be overestimated. An organization similar to NavTecMisEu was created under the title, Naval Technical Mission Japan, with much the same ends in view. A brief account of the establishment, purpose and accomplishments of this group is contained in the following quotations from *Summary Report, United States Naval Technical Mission to Japan*:

In the summer of 1945 . . . the United States Navy established a mission to determine the position of the Japanese in the field of naval technology.

How did the design and construction of their warships compare with ours? What

range and power had their guns? How heavy was their armor and what was its metallurgy? Were they ahead of us in electronics development? The Navy wanted the answers to these and a thousand other technical questions.

To obtain the desired information, investigators had to enter Japan with the occupation forces, before manufacturing plants, equipment, materials, and records could be destroyed and experienced personnel dispersed.

NavTechJap, which became the abbreviated designation for the United States Naval Technical Mission to Japan, was established on 14 August 1945 by directive of Commander in Chief and the Chief of Naval Operations . . .

The purpose of the Mission was to survey all Japanese scientific and technological developments of interest to the Navy and Marine Corps in the Japanese islands of Kyushu, Shikoku, Honshu, Hokkaido; in China; and in Korea south of latitude 38° N. This involved the seizure of intelligence material, its examination and study, the interrogation of personnel, and, finally, the preparation of reports which would appraise the technological status of the Japanese Navy and Japanese industry.

The mission remained in existence from 1 September 1945 until 1 November 1946; its accomplishments were stated to be as follows:

A total of 185 separate reports comprising approximately 10,000 printed pages were prepared and 500 copies of each were printed.

Approximately 3,500 documents were seized and shipped to the Washington Document Center and the technical bureaus of the Navy Department.

Approximately 15,000 pieces of equipment were seized and shipped to the United States for laboratory investigation. The largest items were two 18.1-inch guns shipped from Kure, each 75 feet long and weighing 180 tons.

The shipment to the United States of the 15,000 pieces of enemy equipment by the mission was but a continuation on a far larger scale of a procedure established during the war, under which items of equipment captured in the field were forwarded to designated laboratories or test centers in the United States for detailed analysis and testing. In this phase of technical intelligence, the center served as a clearing house for items sent in, and for requests from Washington to forward areas for specific articles. By this means, the connection between reports of new weapons and

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the pieces themselves was maintained, and adequate exploitation of the information assured.

Another responsibility assigned to the Technical Intelligence Center was that of evaluating and processing information on naval and merchant ships and their characteristics. All possible sources of information were continually scanned for data, comprehensive or fragmentary, on the existence or characteristics of new ships, or for alterations in existing vessels. The collation of this kind of intelligence with a detailed analysis of all types of photographs, including aerial and surface shots, during the war resulted in far greater knowledge of enemy ships than had ever been available before. The size, probable performance, equipment, and appearance of the battleships *Yamato* and *Musashi*, secrets so closely guarded in Japan that even men who had worked aboard the vessels knew little about them, were revealed with amazing accuracy by this method.

Another instance of the detailed processing of ship data occurred in connection with the conversion of the Japanese battleships *Ise* and *Hyuga* to carry aircraft on a "flight deck" abaft the mainmast. Prisoner-of-war reports were carefully checked with the Preliminary Design Section of the Bureau of Ships, and, without benefit of photographs or sketches, a drawing was prepared of the possible appearance of the two vessels. The close similarity of the drawing to the ships themselves, as revealed in the second battle of the Philippine Sea, is testimony to both the possibilities and value of expert processing of ship information.

Throughout the war the Technical Intelligence Center made available to strategic planners and to the fleet the latest information on the enemy's naval vessels, including such important factors as the speed, armament, armor, and specialized equipment of each enemy unit.

As a means of assuring the distribution of information on naval and merchant vessels, the Technical Intelligence Center took over the basic work accomplished by the Identification and Characteristics Section in the publication field, and prepared standard reference manuals on the fleets of the world, together with a comprehensive volume on merchant vessels. The ONI 22 series on the naval vessels of Japan, Russia, Britain, and the

United States and other countries contains all available information on dimensions, armament, protection, and propulsion of each ship, as well as carefully prepared plan and profile drawings and detailed photographs. These publications serve innumerable uses as basic reference manuals and provide source material for recognition training, naval staff work, and study at the Naval War College. ONI 209, *A Manual of Merchant Ships*, includes statistical information on over 13,000 vessels now afloat, in a convenient, readily available index, and profiles of approximately 8,000 of these ships. Included also is a section originally designed to assist in the recognition of German raiders and blockade runners in the Atlantic, South Pacific, and Indian Oceans. In addition to these standard works, the center distributed other information on weapons and equipment through the medium of special publications, and also in articles in *The ONI Weekly* and its successor, *The ONI Review*.

As a result of the flood of information from the European theater subsequent to the Allied penetration of Germany, an expeditious method had to be promulgated to assure adequate distribution of vital intelligence data to those technical activities best qualified to analyze the information and develop any latent value it might contain. At the same time it was apparent that much of the technical data from abroad was of interest and importance concurrently to a number of widely scattered organizations, and, as mentioned above, to private industry.

A technical library of all reports and related data was therefore established in the Technical Intelligence Center which permitted immediate reference by subjects to all available information. A staff of experts was assigned the task of analyzing and briefing each incoming item of information. Members of the staff were required to know the needs of various technical organizations and to be familiar with projects being carried on by them, in order to make immediate distribution of needed data. At the same time accession lists were disseminated, containing brief abstracts of the contents of incoming documents, by means of which interested activities were apprised of the existence of these reports. Processing this type of information, translating, duplicating, and disseminating

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was a tremendous task, and one in which the entire Office of Naval Intelligence participated, and of which it can be justifiably proud.

ARMED FORCES INTELLIGENCE

Even though nonmilitary methods of warfare—political, economic, and psychological—have grown in use and importance, their ultimate success will be largely conditioned by physical force or the threat of its use. Military strength has historically been the basis of national power, the hard core of all the elements through which a nation realizes its strategic objectives in peace and war.

Armed forces intelligence is therefore derived from timely and accurate information of military strength, both in being and potential. It is an evaluation of the aggregate power of all the armed services, as well as a detailed analysis of each service. As a component of intelligence knowledge it has a particularly strong relationship to the other components, for armed forces are definitely influenced by a nation's geographic position, the adequacy of its transport and communications systems, its sociological, political, and economic structure, its scientific capabilities, and the personalities of leaders in each arm of the military establishment. Because of these relationships, armed forces intelligence is most complex, and in order to make valid deductions the intelligence officer or strategic analyst must have not only professional competence in military matters, but also a wealth of background knowledge in those aspects of national life which govern military affairs.

In an age of amphibious landings, combined operations, and "tri-elemental" warfare, Naval Intelligence is concerned with all the elements of land and air as well as sea power. Coastal zones may be dominated by either ground or naval forces, or by carrier-based or land-based air forces. Extensive sea areas may also be controlled from the adjacent land. World War II provided striking examples of the effectiveness of close coordination of armies, fleets, and aircraft in achieving victory.

The naval intelligence officer will often be assigned to a joint or combined staff where he will be closely associated with his opposite numbers in the Army and Air Force. It is incumbent upon him, therefore, to become familiar with the mission, organization, and professional nomenclature

of the other services. He should be a keen observer of their operations, learn the capabilities of their weapons, and appreciate their problems. The ensuing discussion of the armed forces will point out the various elements which must be considered in the development of this component of intelligence knowledge.

THE ARMED FORCES IN GENERAL

Control

Political, administrative, and command control must be clearly distinguished. They may be vested in the same officials or be separated by an elaborate system of checks and balances. In most countries a semblance of civilian control of the armed forces is preserved, but actual control is not always the same as that prescribed by the constitution. Usually in democracies a single cabinet member of the executive branch, a civilian, is in charge of all military affairs. In Latin American democracies, however, it is often true that civilian control over the army exists only in theory, for the military may have acquired control over the executive branch by force of arms.

Civilian control of the military sometimes takes fantastic forms. During the past several years the Soviet Government has been trying to introduce a certain amount of "culture" into the officer corps of its armed services. It appears that "culture" does not require an officer to become a connoisseur of the arts but relates to neatness in dress and better table manners. The official officers' guide contains the following directives:

Don't comb your hair during meals; don't stretch your legs out; and don't open your collar . . . The fork is held in the left hand, the knife in the right hand, and not vertically but horizontally . . . To eat with the knife alone is quite indecent. . . . Don't exhale into the faces of others.

Any important change in the top control structure effected in time of war must be carefully noted. If such a change involves the formulation of a joint general staff or other unified control, its composition and the methods whereby coordination is achieved and differences resolved become significant.

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Composition and Size

The armed forces of a nation may include in addition to army, navy, and air, certain components with police and border security functions, which are integrated into the armed forces in time of war or emergency. The United States Coast Guard, for example, under the Treasury Department in peacetime becomes a part of the Navy in time of war. In East Germany the *Bereitschaften* or "Alert Police" constitutes the nucleus for an army, and the "Sea Police" can become a navy. An estimate of the armed forces of the U. S. S. R. will include consideration of the security forces of the M. V. D.

Data on the size of the armed forces consists of more than figures on the total personnel strength of each service. The relationship of the strength of the armed forces to total population must be shown, and significant trends in size and proportion indicated. Comparative figures over a period of years are essential.

Position in the Nation

The chief factors to consider in determining the position of the armed forces in the nation are the legal or constitutional basis for their existence and organization, the traditions responsible for popular attitudes toward them, their role in political life, and the fiscal support they receive. Whenever the prestige and power of the armed forces appears to be due in part to foreign influences, the development of such influences should be carefully traced. Knowledge of these matters will provide the researcher with the proper perspective for detailed study of individual arms and services.

In many countries the size of the armed forces and the proportion of the total military budget allotted to each arm are specifically restricted by law. An examination of such laws will help to ascertain whether the present government preserves their letter and spirit or whether the armed forces have come to their present status without regard for legal basis. Public law may also provide for organizational structure; for example, in the United States, the National Security Act of 1947 represented a fundamental change toward unification of the American military establishment. An understanding of our present military structure can only be gained through familiarity

with the provisions of this law and its amendments.

The attitude of the people toward the armed forces is important in determining the position of the military as a whole or the prestige of an individual arm. In Great Britain, for example, the Royal Navy is the senior service, the result, of course, of the place of sea power in British history and traditions. In America, the Army has been the senior service since the time of the Revolutionary War when national objectives were achieved through effective use of ground forces. Reverence for military leaders and popular approval of stern military discipline have been important elements in the willingness of the German people to go to war. The victories or defeats of past wars may have contributed to the present attitude of the people of a nation toward war and military or naval affairs. National emergencies can likewise change the people's attitudes. In the United States, for example, popular enthusiasm for military matters and the prestige of military men have always been greater in wartime than in periods between wars. In countries where conscription is resented the armed forces will not enjoy popular esteem, civilian control is apt to be more firmly established, and the efficiency of national defense may even be impaired. The morale and accomplishments of the military establishment or of an individual service may instill admiration and respect in the popular mind, and become an incentive for the most capable citizens to seek military service. In countries where citizen soldiers far outnumber professionals, the public attitude will be conditioned by the treatment accorded reservists while on active duty.

The political influence of military men must also be assessed. Does the party in power take particular steps to keep popular military figures removed from the political scene? Do political leaders require military support to further their objectives? Associated with such considerations are the existence of political factions within the services and the extent of political intrigue. Measures taken to insure the loyalty of members of the military establishment and the manner of dealing with subversive elements are important in respect to some countries. For example, in the U. S. S. R., political reliability is a requirement for promotion

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in the officers corps, and a special organization within the military services is charged with the political indoctrination of enlisted personnel.

In determining the national position of the armed forces the manner of allocation and control of appropriated funds are just as important as the amount of the appropriations themselves. What proportion of the total national budget is allotted to the armed services? Are any items for military purposes concealed in the budget figures as published? Often the executive branch of the government will have considerable funds available for expenditure without public accounting. The Manhattan project, for example, which developed the A-bomb during World War II, cost over two billion dollars, but the expenditures were never published as items in a military budget for security reasons.

The national objectives of a country will be reflected in its military budget. A striking example can be found in the present tremendous rise of United States military expenditures to meet the threat of aggression in Korea. It also reflects the growing realization that America can no longer rely on her ocean barriers. New problems of national security require extensive funds for research to improve existing weapons and equipment.

Manpower

Analysis of a nation's manpower was initially treated in the preceding discussion of the sociological component. The same principles apply here, but more attention is given to manpower from the military point of view, differentiating between manpower as a whole and that section of it which is drawn upon for the armed forces. Statistics must be presented showing availability and quality of men fit for military service. How many young men annually reach military age, and what is the average number inducted? The basic military service laws and the general conscription system should be studied. What are the actual practices in granting deferments, and what proportion of the number available is affected by such regulations?

In estimating the quality of military manpower, attention must be given to physique, intelligence, education, amenability to hardship, aptitude for handling and maintaining technical or complex

equipment, and general attitudes, such as acceptance of discipline, esprit de corps, and loyalty.

The discussion to this point has concerned armed forces as a whole. The balance of this section will deal with ground, naval, and air forces separately, and the detailed information regarding each which is needed in the production of accurate armed forces intelligence.

GROUND FORCES

Administration of the Army

The best way to present overall organization is by a chart showing the main subdivisions of the War Ministry, or the Department of the Army, and the chain of command to territorial headquarters and field forces. The structure of the High Command should be included and comments made on the functions of main bureaus and staff divisions. Maps showing the boundaries of military districts and the location of headquarters are essential.

The various arms and services of the Army must be accurately described, using nomenclature in the language of the country. Any distinctive insignia worn by certain troop units should be described or illustrated.

Tactical Organization

The overall organization of the Army into tactical commands can also be presented in chart form, supplemented by a description of basic tactical units and field staffs. If there are any differences between the tactical organization in time of war and that of the peacetime Army, note should be made of them. Additional charts can be prepared to show the detailed organization of divisions and smaller independent combat units, including strengths and allotment of weapons and vehicles. Comparison with similar organizations in the United States Army is always helpful. Descriptions should be carried down to the smallest elements, such as rifle squad or tank platoon.

The organization of service units, engineers, signal, transportation, etc., should be given in the same detail as that of combat units. Nomenclature should be carefully recorded, for it varies considerably in armies of the world. American equivalents again serve as good standards of com-

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parison. Therefore, for background purposes, the following brief discussion of United States Army divisions is appropriate.

The Infantry Division

An infantry division is typically composed of three regiments of infantry, a medium tank battalion, a combat engineer battalion, an antiaircraft artillery automatic weapons battalion, and four field artillery battalions. It is designed to hit hard, maneuver over any terrain, absorb reinforcing units easily, and show considerable staying power. In specific situations it may require additional artillery, armor, engineers, or service units. It gives close support to armored units, seizes, holds, or envelops objectives, and engages in necessary close combat. The ratio of combat to service troops is 4 to 1. In its present composition it is a more powerful striking force than its World War II counterpart, for each regiment also has a medium tank company. The combat engineers can build roads, bridges, ferries; lay mine fields and obstacles; build shelters, landing strips, waterworks; and in emergency fight as infantry.

Infantry weapons include rifles, bayonets, automatic rifles, machine guns, mortars, carbines, pistols, grenades, light antitank weapons, recoilless rifles, flamethrowers, and tanks. Infantry has the advantage of being able to move inconspicuously in small groups, taking full advantage of terrain. Battle effectiveness over a period of time requires rotation of units, proper supply, and medical service.

When Army infantry is used in amphibious operations, the battalion landing team is the basic organization. Necessary boats and amphibious vehicles take the place of much of the motor equipment.

The Armored Division

The armored division is the basic large armored unit, a balanced force of ground arms designed to be tactically and administratively self-sufficient for missions requiring great mobility and firepower.

Typically, it is composed of 15 battalions: 4 tank, 4 armored infantry, 4 armored field artillery, 1 antiaircraft automatic weapon, 1 reconnaissance, and 1 armored engineer. In addition, there

are the necessary headquarters and service troops, including combat commands as required. It is very flexible in organization and employment.

An armored division is especially suited for deep penetration and seizure operations, mobile defense, and destruction of hostile armor. If it cannot lead an assault, it can attack through an infantry division after obstacles have been breached or bridged. Maintaining its momentum is important to full effectiveness.

The Airborne Division

Just as amphibious operations require special techniques and equipment, so too do airborne assaults. All equipment must be transportable by air. The ground units depend upon the Air Force for airlift just as amphibious units depend on the Navy. Airborne divisions frequently are organized in three combat teams, each with an infantry regiment, an artillery battalion, an engineer company, and a medical detachment. Other personnel include a parachute maintenance company, antitank and pathfinder platoons.

The airborne division enters combat in three echelons: an assault group, either parachuted or landed from assault transports; a followup group, landed in the air head either by assault or regular transports; and a rear echelon of maintenance and administrative personnel.

The division is no more mobile than any other without its airlift. Its radius of action is determined by the aircraft it uses. Typically, it requires 751 Fairchild Packets (C-119), 461 Chase Avitrucks (C-123), and 16 Douglas Globemasters (C-124).

Because of dependence on airlift, which in turn depends on good weather, airborne operations are usually limited to short duration strikes against key targets in the enemy rear where opposing forces will be weak or scattered. Operations are usually intended for early joining with other ground forces, raid and withdrawal, or special aid to guerrillas. An independent operation, such as the seizure and expansion of an air head, is possible, but requires a major effort since medium tanks and heavy artillery are not available to an airborne unit. Sufficient air superiority must be maintained to prevent the enemy from taking effective counteraction over a period of time.

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The strategic mobility of airborne forces, subject to the command of the theater headquarters, is a threat to the enemy by its very presence in the theater of operations. At present the radius of action for large-scale airborne operations is about 730 miles; it could be extended to 1,000 miles with the aid of carrier-based aircraft.

Order of Battle

In time of war, a large part of the total military intelligence effort is devoted to enemy order of battle: specific information on the strength and disposition of opposing forces. Strength is measured in terms of personnel, units, and armament. Disposition refers to the locations of identified units, their headquarters, and movements. For the operational commander such information on the enemy is imperative, and he must also try to keep from the enemy corresponding information on his own forces. This denial to the enemy of order of battle intelligence was well illustrated early in the Korean War when General Douglas MacArthur's headquarters asked correspondents to refrain from identifying military units in the Korean operations and reporting the whereabouts of headquarters or troop movements.

Order of battle intelligence is expanded to include tactical doctrines and methods, combat value of troops, records of performance of identified units, and personal data on unit commanders. If the information gathered by the intelligence researcher in peacetime is painstaking in attention to details, the task of the combat intelligence officer in the field will be made easier.

The need for including data on weapons and equipment in order of battle information is well illustrated by an experience of the United States Marines in Korea. The First Marine Division had made contact with an enemy unit. By interrogating a prisoner, the Marine Intelligence officer learned that this unit was a full North Korean division. Consulting his order of battle file, he further learned that an artillery battalion is attached to each North Korean division and that its armament consists of 18 76-mm. guns and 18 122-mm. howitzers. Thus he was able to supply his commander with valuable combat intelligence on the firepower of the enemy.

Order of battle data can be effectively recorded

on a situation plot for a given area of operations by pins and symbols as far as identifications and locations are concerned. A card file giving details on individual units is an indispensable reference.

Strategy and Tactics

Since the strategic military problems of a nation are influenced by such factors as geographical position, nature of terrain, economic capabilities, and political system, the analyst's task is to study the land fortifications and coastal defenses in the light of the nation's strategic concepts. Detailed information must be gathered on the location, purpose, characteristics, and manning of defense installations. Presentation on a map will give a good graphic picture. Whenever possible, sketches or ground plans of individual fortifications should be included.

The basic tactical doctrines of the Army offensively and defensively must be carefully studied in comparison with those of the United States Army. How is artillery used in support of ground forces? Cavalry? Tanks? Are there any preferred types of field fortifications or ground obstacles? What use is made of reconnaissance? What tactics are employed in close combat? The doctrines established in special operations must also be included, such as amphibious landings, airborne operations, and guerrilla warfare. Operations in desert, jungle, or mountain terrain require special tactics. Similarities and differences with respect to United States doctrine should be pointed out.

Personnel and Training

The rank structure and system of pay and allowances of a foreign army can be presented in tabular form, with the United States equivalent providing a basis for comparison. Any particular differences may require a descriptive explanation. When pay is given in the terms of the country's monetary system, the equivalent in dollars at a stated rate of exchange is necessary. Military pay should also be evaluated according to the standard of living in the country.

Additional considerations with respect to personnel are the methods of procurement, terms of service, and any quality factors not covered under manpower. An assessment of military leadership

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against a background of the military history and traditions of the nation is valuable in a strategic estimate.

Details on the ground forces training program should include training of the individual soldier as well as that of all types of units. The army school system for officers and enlisted men, regular and reserve, the character of training maneuvers, and the overall effectiveness of instruction are pertinent considerations.

Closely allied to training are the reserve and mobilization systems. The total number of trained reserves should be presented by age groups. In regard to mobilization plans an estimate should be made of the actual numbers which could be called up and ready for field service on M-day, M plus 30, M plus 60, etc.

Logistics

Logistics enters into every phase of military activity: production, procurement, storage and issue, transport of supplies, maintenance and repair on the field, and evacuation of both equipment and personnel. Many a battle or war has been lost through logistics failures and contrariwise superb logistics support made victory possible for American armies in the farflung campaigns of World War II. More recently the failure of Chinese Communist Forces in Korea to sustain offensives for long periods of time has been due to their inability to maintain the necessary amount of materiel at the front to support their operations. The better logistics of the United Nations, on the other hand, has enabled a numerically smaller force to contain the enemy attacks.

The analyst or researcher thus considers all the factors of logistics in preparing an estimate of a foreign army. He very quickly finds that he needs accurate knowledge of industrial production and economic affairs in order to make his analysis complete.

Army logistics are of particular concern to the Navy because the transport of men and supplies for any overseas operation is a naval responsibility. Logistic planning in the United States Army is based on the "division slice," that is, the total number of men in both combat and communications zones. For example, a theater division slice totals 40,000 men: 30,000 in the combat

zone (20,000 in the division area, 10,000 in corps and army service areas) and 10,000 in the communications zone.

H. G. Martin in *Brassey's Annual* for 1951 makes some interesting comparisons between the division slice of American and Soviet Armies:

Within two months of the outbreak of war the Soviet Army could probably mobilize about 300 divisions; at the peak of its effort in the late war its total of divisions amounted to about 600. The Soviet Army achieves this multiplicity of divisions by a process of streamlining vigorously applied. Marshal Vasilevski believes that it is the men in the firing line who win battles. He sees to it, therefore, that in the Soviet Army there shall be as many men as possible in the firing line—at the expense of the rearward services—and that the ratio of weapons to men shall be higher than in Western armies. He has begun right down at rifle company level. Whereas in a rifle company in the United States Army there are thirty-seven men whose primary jobs are cooking, signalling, M. T. driving, or clerking, in a Soviet rifle company all but two are there for one purpose only—to shoot at the enemy . . .

Clearly the West has something here to learn from Marshal Vasilevski's methods. Russia, with a plethora of cheap manpower, has given us, with our manpower shortage, a striking lesson in economy of administrative overheads. Clerical staffs, cooks, orderlies, M. T. drivers, signals, engineering and medical services—Marshal Vasilevski prunes the lot ruthlessly.

Of course, his is a comparatively simple problem. He can afford to cut overheads because he is dealing with men accustomed to conditions that more civilized Westerners would find intolerable. For instance, in the Soviet Army there is no personal documentation of soldiers below the rank of major; the medical battalion of a division is only eighty strong.

Moreover, Vasilevski is faced by the fact that in Russia there is no educated class of minor technicians. Thus with the best will in the world he could not have provided the Soviet artillery with the men to do the survey, work out the computations, and man the observation posts on a western scale. Perforce, he must there cut overheads at the sacrifice of some flexibility of fire of his artillery.

Finally, he has a comparatively small zone of communications to deal with. If war

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should come, the Soviet Army would advance from its bases in Occupied Eastern Europe in an attempt to overrun the western fringe. Throughout, Vasilevski would be fighting almost on his own doorstep; but not so the United States or even the British armies—theirs would be an overseas campaign, fought through a zone of communications that must add greatly to the magnitude of the divisional slice. Nonetheless, when we have made all these allowances we still are left with our lesson to learn. The West cannot afford to put so few of its soldiers into battle.—*Brassey's Annual*, The Armed Forces Yearbook, 1951, pp. 261-2.

Materiel

Intelligence on ground forces materiel is gained through detailed information on ordnance, signal, and engineer equipment, quartermaster, chemical, and medical supplies. Tables of characteristics must be prepared for specific items in each category of ordnance and quality as well as quantity described. Quartermaster supplies include uniform, insignia, decorations, individual and unit equipment. Any experimentation with new items of materiel should be noted. Often the Quartermaster Corps is currently engaged in a number of research projects to determine the adaptability of such things as clothing for certain weather conditions, and the Engineers may be testing a new type of portable bridge. Information on medical supplies, facilities, and equipment are important in evaluating the combat effectiveness of the army in the field. The existence, for example, of a national blood bank for military use should not escape the analyst's notice.

Obviously every nut and bolt cannot be described, and so the problem becomes one of selection of significant items representative of type and class. Photographs or sketches are always helpful. It is in this subdivision of armed forces intelligence that technical intelligence makes its greatest contribution. Conclusions reached by the technical evaluator often have far wider implications than those apparent from the examination of an individual piece of equipment.

NAVAL FORCES

To make an appraisal of the naval forces of a foreign country the factors considered are in prin-

ciple much the same as those for the ground forces. Organization, strength and disposition, strategic and tactical doctrine, personnel, training, logistics, and materiel have a similar bearing on the determination of strengths and weaknesses. Comparisons with the U. S. Navy and American equivalents of nomenclature will give proper perspective to the study of foreign navies.

Organization

In addition to diagrams showing the overall command and administration of the navy, maps outlining the naval districts, and discussion of the functions of the more important department and staff components of the naval establishment, special attention should be given to naval communications. The organization of naval communications networks, and the various existing naval communications facilities can also be graphically presented on charts and maps.

Tactical and administrative organization of the forces afloat should include shipboard organization of typical units. Shore support activities, and their relation to the fleet should be described.

If quasi-naval organizations, such as Coast Guard, Coast Artillery, Coast Watchers, and Marine Corps are not adequately covered in the preceding sections on the armed forces as a whole, these should be properly included here.

Strength and Disposition

The disposition of ships into fleets and forces, names, types, and status of individual units can be presented in tabular form. Such information is never static, so the analyst should keep a card file on each naval vessel on which entries can be made to keep location and status up-to-date. The number of vessels in "mothballs," those used for reserve training, and those undergoing extensive repairs or alterations in shipyards should be clearly indicated.

The total number of naval personnel should be broken down according to rank and rate, regular and reserve. The proportion serving in ships and at the shore activities of the naval establishment should be shown.

Policy and Doctrine

The capabilities of the navy in fulfilling its mission with the forces available are fundamental con-

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siderations in a strategic estimate. What factors influence naval thinking and strategic concepts? Are naval problems of real national concern, or must the navy wage annual battles with the legislature to obtain an adequate operating budget?

How is naval doctrine formulated? Is it influenced particularly by war experiences? Has the navy developed independent of foreign influences? What are the naval traditions of the country?

Every country which has a navy will also have a naval construction and development program. The political and economic factors bearing upon such plans must be noted. The Scandinavian countries, for example, are developing navies suitable for coast defense and operation in restricted waters. The U. S. S. R. has been concentrating on submarines, destroyers, and light cruisers. Any foreign alliances the country may have will also influence naval policy and planning.

Personnel

The considerations which applied to army personnel can serve as a guide to examination of the personnel of the navy: corps and services, rank and rate structure, procurement, conditions of service for both officers and enlisted men, uniforms and insignia. United States Navy equivalents of rank are important items of information in observing naval honors when United States naval vessels are visiting foreign ports or when a foreign naval vessel comes to our shores.

Reserve, Mobilization, and Training

The recommissioning of ships in time of war, the naval reserve organization, the extent to which the merchant marine can augment the navy, and the adequacy of the mobilization system are major considerations. The effectiveness of the training system for officers and men must be assessed, in basic and specialist schools ashore, on shipboard, and in maneuvers of fleets and forces. Any special methods of instruction should be described; for example, the extent to which visual aids are employed, the realistic nature of exercises, or the use of educational facilities outside the navy.

Logistics

In addition to a description of the system of procurement and supply of naval materiel, the

policy in the construction, repair, and maintenance of naval vessels should be noted. Are naval or private shipyards in the country capable of doing all kinds of such work? Must the navy rely on foreign sources for any essential items? Where are the main naval depots located? Does the navy have fuel supply problems?

Ship Design and Characteristics

Of interest for strategic intelligence purposes is the adequacy of ship design for operations in certain areas. A ship designed for use in the waters of the North Sea may be entirely unsuited for tropical waters due to lack of an air conditioning system. Arctic operations also require special ship design features. If amphibious operations are included in the navy's capabilities, careful attention should be given to the characteristics of landing ships and craft. If there are aircraft carriers in the fleet, their strategic characteristics must be assessed in relation to the capabilities or vulnerabilities of naval air forces.

Materiel

Tabular summaries of the characteristics of all types of naval materiel are required: guns and ammunition, torpedoes, mines, antisubmarine weapons, electronic and communications equipment. Any deficiencies in quality or supply of particular items which affect the capabilities of certain ships, or of the navy as a whole, are significant considerations in strategic intelligence.

AIR FORCE

A strategic estimate of a nation's air forces must give consideration to the same factors as previously applied to the army and navy. The naval air arm, if such exists, can either be included with land-based air or discussed in connection with the navy. The analyst must take care to emphasize salient points of strength and weakness. In the light of the mission of the air forces, a careful study should be made of their capabilities, both as regards aircraft and personnel. Doctrinal concepts in the utilization of available aircraft in time of war must be studied.

Tactical Air Support

Two types of tactical air support, close and general, must be considered. In close air sup-

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port, air action is integrated with the fire and movement of friendly ground forces against hostile targets or objectives. General air support comprises air operations against enemy air activities, ground elements, installations, and lines of communication which assist the supported ground forces but are not in such proximity that integration with their fire and movements is required. The capabilities of the air force in respect to both types of support, must be determined. The maximum number and types of aircraft that can be assigned to such missions initially and on a sustained basis are important factors. Evaluation criteria will be performance in past wars and the emphasis given tactical air support in current training programs. The air forces doctrine in tactical air operations must be compared to that of the USAF and the USMC.

Strategic Air Capabilities

Here the analyst is concerned with the maximum number and types of bombers available initially and on a sustained basis. Range, bombload, maintenance of aircraft, availability of pilots and crews, location of bases, and many technical matters enter into such an estimate.

The country's air defense system, that is, its ability to resist foreign air operations, is closely allied to offensive capabilities. Interest will center on the air defense organization, warning and intercept systems, including electronic equipment, types and deployment of aircraft defense units, and the effectiveness of antiaircraft artillery. Details will include types of radar, antiaircraft guns and fire control equipment, guided missiles, balloon barrage, searchlights, airborne electronic equipment, and techniques in electronic countermeasures. The average analysts will require a great deal of expert technical assistance in the compilation of such data.

Another capability to which attention should be given is related to strategic air reconnaissance. With what types of planes is reconnaissance conducted? What types of cameras are used? How skillful are the nation's photographic technicians and photo interpreters?

Air Order of Battle

Air Order of Battle, similar to that of the army, provides data on identification, strength, and gen-

eral disposition of the units, personnel, and equipment of the air forces. Units are described by types, mission, and location, with comments on extent of training, experience, and combat readiness. Aircraft and equipment are identified according to the numbering system, special markings, and insignia. Source and number of aircraft acquisitions are included.

The background for order of battle data is a thorough study of the organizational relationship of major and subordinate commands and units, general control, and administrative and staff functions at all echelons. Again as a standard of comparison it is helpful to have an understanding of the organizational components of the United States Air Force, the types of aircraft included in the complement of each, how service and supply functions are administered, and what facilities are needed for effective operation.

Training

The training program of a nation's air force is most significant for the strategic analyst. He must evaluate its effectiveness in meeting the current requirements of the air forces, its capability for wartime expansion, and the adequacy of training equipment and facilities. Primary, basic, and advanced flight training are each considered with respect to duration in months, location of schools, curriculum content, number of trainees admitted annually, types of aircraft used, special training aids, and quality of instruction. A consideration of operational training will include such aspects as gunnery, rocketry, bombing, navigation, instrument training, night flying, and combat tactics for each type of aircraft. The training of ground officers and airmen in such key specialties as operations, weather, engineering, supply, communications, and radar must not be overlooked.

Many foreign countries have sent air forces personnel to the United States for training or observation. The analyst should attempt to determine the effect this contact with American training methods has had upon training policy and doctrine in the country from which the visitors have come. Often their experiences have strongly influenced relations between the two nations in areas other than military.

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Air Facilities

Strategic intelligence regarding a foreign air force includes a complete description and assessment of the air facilities of the nation. Each facility must be analyzed to determine its suitability for combat air operations and capability for airlift activity in support of combat operations. Maps, diagrams, and photos are necessary adjuncts to a thorough appraisal. Current and projected construction should be included, and special attention given to possibilities for extension of runways and general expansion of installations. Climate and topography are often controlling factors in a nation's development of air facilities. Any limitations caused by these factors in certain areas should be ascertained. The meteorological services of the country and the use the air forces make of them are pertinent in this connection.

Other Considerations

The study and evaluation of personnel, reserve and mobilization systems, logistics, and materiel of foreign air forces will embody the same general considerations as were previously outlined for the army and navy, with variations in details as applicable.

BIOGRAPHICAL INTELLIGENCE

Biographical intelligence has the important function of providing information on individual persons in foreign countries and, as has been previously suggested, this component of intelligence is essential to all of the others. Knowledge about leaders in government, politics, science, education, military services, and business will not only be helpful in evaluating aspects of these general fields, but also may provide valuable clues to probable courses of action. The background, personality, enthusiasms, and prejudices of such individuals constitute vital considerations in an evaluation of national strengths and weaknesses. In the sociological component the people are considered collectively and characteristics common to groups are ascertained; biographic intelligence refines this study, centering interest on the dominant figures within the groups.

Obviously the intelligence researcher cannot keep extensive data on all individuals. His pri-

mary task is therefore one of selection, but he cannot be limited to only those prominent in the contemporary scene. He should always be conscious of the fact that leaders of tomorrow may now be in relative obscurity, but there may be signs pointing to rising eminence or power.

The sources of biographical information are many. In a great number of countries volumes similar to the American "Who's Who" are published at regular intervals, and official registers list persons in government service. The daily newspapers and a great variety of periodicals will always contain additional information. Most valuable of all are character and personality estimates from those who know or have known the individual professionally and socially.

The paragraphs below will serve as a guide to the content of the ideal biographical file. It will not always be possible to obtain all the data for every individual but the goal is defined.

Vital Statistics

The items to include are those usual for identification purposes: full name, nationality, religion, residence address, date and place of birth, general appearance, parents, etc. Uniformity in spelling geographical names and in trans-literating from foreign languages which do not use the Latin alphabet is essential to a good biographical file. Valuable aids in this respect are standard gazeteers such as that published by the Board of Geographic Names of the Department of the Interior, and the Style Manual of the United States Government Printing Office.

Education

The data here should include schools attended, degrees conferred, and academic honors. Extracurricular activities can also be significant. If the individual became the disciple of a certain professor at an early age it may be reflected in his later thought and attitudes. His foreign language proficiency is another important consideration.

Personality

Thus far the biographical file has merely compiled a *vita* for the selected individual. When we come to personality, intelligence begins to be produced. An evaluation must be made of the

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personality traits which govern his behavior: moral force and character, intelligence, personal characteristics, opinions, and loyalty. Does he have marked qualities of leadership? Is he a man of strong convictions or are his opinions easily changed by others? Are his ideas of right and wrong well defined? Is he honest?

Those who have associated with the individual can supply the best answers to questions concerning his mental abilities, but much can be derived also from any books or articles he has written or his published utterances. Does he quickly comprehend new ideas and can he rise to the occasion when he meets the unusual? Is he well educated in the sense that he has a broad understanding of local and international affairs? Has his perspective been enhanced by travel abroad and contacts with a great variety of people? Does he have certain distinct prejudices? Is he pro- or anti-American?

Personal characteristics comprise another consideration. Is he energetic or lazy? What are his drinking and eating habits? What are his usual forms of recreation? In what social circles does he move? Is he bold or cautious? What is the state of his health and does it affect his activity? Is he loyal to his country and his superiors? Does he inspire loyalty in others?

Family

Family position or influence must not be overlooked. Often an ambitious wife is "the power behind the throne." Family ties are important

influences in the lives of men, and are often mirrored in their careers. Is he a family man? Has he used family connections in any way to achieve certain goals or ambitions? Does he have children whom he is encouraging to follow in his footsteps?

Relationship of Factors

Only a final consideration of all the above factors in the aggregate will give a complete picture of the individual's administrative ability, professional competence, disposition, tact, sobriety, international sympathies and attitudes. Biographical intelligence thus can be used to great advantage in strategic estimates. It is intimately related to any field where names make news.

The objective of the foregoing discussion has been to outline broadly the logical division of intelligence knowledge into component parts, and to indicate to a degree their nature, comprehensiveness, interrelationships, importance, uses, and sources. The applicability and utility of this great body of knowledge in relation to current world problems is suggested by the following three chapters which are, in effect, topical summaries in the field of international relations: elements of world power, factors in the foreign relationships of the United States, and salient features of World Communism and the U. S. S. R. These chapters will also contribute to the development of the naval officer's perspective in his approach to matters of intelligence concern.

CHAPTER 6

ELEMENTS OF WORLD POWER

In approaching a study of international relations a naval officer assigned to intelligence duties should keep in mind three basic points. First, a nation's power position in relation to other nations of the world is determined by its comparative strength in various of the categories described in the previous chapter as the components of intelligence knowledge. Second, a nation's strategy toward other nations is influenced directly or indirectly by its own *relative* standing in one or more of these categories. Third, in the exercise of national power there have developed in the course of modern history certain recognized procedural patterns which apply to relationships between nations. A valuable aid to such a study is an understanding of the elements of world power and their effect on the behavior of nations.

For many years, problems of international power relations were viewed in a somewhat detached manner by the United States, and its peoples tended to adopt an idealistic approach. World War II and subsequent events had a tremendous impact on that point of view and approach; the United States found itself directly involved in problems of world dimension and its idealism attacked. However, as an aid to finding solutions, America's idealism is a vital factor, a very real force that must be preserved, for it represents the symbol of personal freedom and justice in a chaotic and frustrated world. But idealism is not to be confused with a denial of realities or of the basic facts relating to them. Perhaps for the first time in American and world history there is much more at stake than the survival of present political institutions. The very structure of our social life is threatened. Modern technology makes all parts of the world accessible to every other, and philosophies opposed to our own are for the first time organized and regimented on a world scale. Therefore, a sober concentration on solutions to problems of international relations is essential, not only for our own survival, but also for the survival of those peoples with whom we have kinship of spirit and tradition.

STRATEGIC GEOGRAPHY AND RESOURCE POTENTIAL

Consideration of a nation's total power potential involves all elements of its national power and especially those of geography, resources, industrial capacity, manpower, and technology. In studying these elements separately, the intelligence officer, whatever his individual role, must have an appreciation of the whole, an understanding of how the particular facts he collects and assesses ultimately compose the total estimate of a nation's power. It will be helpful to discuss the elements of world power from the point of view of the United States.

Geographical Environment

Let us begin with a consideration of our geographical environment. In this world, man lives principally on the large scattered islands known as continents, and on lesser archipelagos. He has made his greatest progress and shows the greatest ambition in the temperate, lowland, regions. His growing numbers and changing technology have brought new stresses in the age-old fight for control of resources. In ancient times, the struggle was for hunting, grazing, and agricultural lands. Historically speaking, as a newcomer on the planet, man has only recently developed written languages and a real technology. The industrial revolution and modern economic society date only from the time of our most immediate ancestors, within the last two centuries. Snowballing progress and new ambitions have centered major rivalries on control of natural resources, manpower, transport routes, strategic positions, and mass markets.

We in America find ourselves occupying a rich continent newly settled in large numbers, with a culture largely western European, which was earlier subject to the civilizing influences of Rome, Greece and the Middle East. Our continent, North America, in one sense is isolated by two great oceans from the principal land mass of the

world: Eurasia-Africa. In another sense, our isolation is quite ephemeral when our map is not the traditional Mercator but a globe or polar projection. In an age when jet aircraft, even following the traditional routes, cross the ocean in a few hours, and guided missiles on the drawing boards will cross it in a few minutes, any vestigial ideas of geographic isolation must be discarded.

Our technology is now so complex that whatever our military isolation or defenses at home may be, full exploitation of our industry and our acquired consumption habits require access to resources far from our own frontiers. Possibly only the United States and the Soviet Union would be capable of maintaining their present living patterns from the resources within their own boundaries. Even then our own high standard of living would definitely be cut, and higher production costs would be accompanied by plaguing shortages of key materials for which only inferior substitutes would be available.

Economic isolation is only one aspect of the problem, for should we retreat within our own walls, the smaller nations of the world, if organized or dominated by an aggressive power, would in time far surpass even our own great industrial and military potential, and today's new weapons would banish any possibility of real defense in depth. War in devastating form would come to our own hearths.

Geographical Patterns

Let us then consider what are the geographic patterns that govern what we and other nations must defend for survival, and what are the routes of attack, for these patterns should be basic keys to conflict and strategy in the world, without regard to political organization or to ideology so long as mankind wars with his own species.

We are concerned with the position, the terrain, the climate, the vegetation, the shape and size of land, the resources, and the population of each area or sovereign state. The power position of each nation will be affected in some degree by each of those elements. Power depends on material factors, such as resources, capital goods, technology, and manpower; it also depends on intangible factors that are harder to measure objectively, such as the energy and central driving pur-

pose, the steadfastness and traditions of a nation. Some peoples, who by every objective test should have disappeared long ago from the earth, have a staying power that has helped them to survive occupation, dismemberment, and deportation.

Our first concern is with the tangible factors, the physical patterns. The reader should refer to a globe, if possible, and also to a good atlas, including maps of physical relief, climate, and resources distribution. Space here will not permit particular study, region by region, but the approach and viewpoint can be delineated. Thinking of the military and political and economic aspects, study your maps to observe the land and the water pattern of the world. Where are the land bridges that armies use? Where are water trade routes channelized for contending naval powers to dispute control? The patterns of mountain ranges, and of deserts are important, as well as the vegetation lines that indicate the shifts from tropical rain forest to savannahs to desert to steppe to temperate forest, and so on until the tree line and the various crop lines mark the polar or high central Asian regions. These changes give clues to the significance of regions in their potential for supporting man and his crops and animals, and for their effects on military movement.

Throughout history military barriers to trafficability and movement have dominated campaigns and their outcome. Changing technology has modified this only in part, for as men have invented devices to overcome these barriers, so have they frequently found other tools to neutralize these advances. Deserts are of prime importance as barriers, whether they be dry deserts of the temperate and tropic areas or the frozen wastes where survival is always a problem. Mountains serve as great defense lines against military movement, though, of course, the test of the barrier lies in the passes through it, not in the individual peaks of the main ramparts. Even open plains are a major obstacle when by season they alternate between soft mud and windswept snow or cold. In some degree, swamps and marshes, jungles and rain forests, oceans and rivers channelize and restrict military movement, unless the means to bridge them are at hand. Invading forces from the sea find that coasts are not uniform in nature, and that only a few beaches and

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ports lend themselves to mass invasion. Of course, there are man-made obstacles to military movement, but in contrast with nature's, they deserve scant attention here.

With these general clues to factors affecting military movement, both history and the contemporary scene can be viewed in a new light as one studies problems of military and naval campaigns. A good grasp of the general position of countries, the barriers of terrain, vegetation, and climate that aid or hinder them, is basic to an understanding of their power position. Clear recognition of the difference between oceanic and continental climates may give clues to the success or failure of campaigns. As a further aid to full understanding, one should study maps from several approaches. The geographic position of countries takes on new meaning when maps are turned in unconventional directions. It is only custom and convenience that makes us consider north as "up."

Controlling Resources

Historians theorize that modern civilization began as the last ice age receded, allowing the two keys of geography and resources to open the door to progress. In the ancient world of Egypt and Mesopotamia in the west, and in the protected valleys of Sinkiang and Kokonor in the east, simple communal living rapidly blossomed into complex civilizations. In the Middle East, rich alluvial plains with wild rice in abundance led to settled farming and the further domestication of animals which had begun in nomadic days on the grass lands of Asia. Sedentary living led to building cities, codifying laws, and written communication. In time, smelting metals, farming, and trade became widespread.

Today the controlling resources include more than plentiful food, for the age of reason, experimentation, and exploration brought mechanical inventions that depend on a wide range of natural resources. The key to national power today is not alone food, but energy derived from coal, oil, and, to a lesser extent, water power, and iron, which is still the chief metal, since the bronze age was left behind thousands of years ago. These are then the major elements of real power, but there are a host of others, strategic in nature,

whose particular properties support the alloys and specialties of metallurgy, the growing chemical, plastics, and electronic industries, newly discovered methods in agriculture, and, of course, that new key to power, the development of nuclear energy.

Food patterns are still important, for industrialization and modern transport have developed dense concentrations of population which depend for survival upon orderly flow of their sustenance. Wheat, rice, corn, barley, sugar, fats and oils, fruits, beans, fish, meat and dairy products fill thousands of ships on the ocean highways of the world, and load the great rail networks across the continents. Shipments of tea, coffee, tobacco, and chocolate may also be considered essential, for they contribute to morale, one of the intangibles in national power.

Industrial Location

Modern economics has given importance to the theory of location of industrial activity. In simple terms, it recognizes that locations of raw materials, power, labor supply, and markets all interact with transport costs and material characteristics to determine where industry is to be found. Changing technology alters the force of the various elements in the equation, but generally speaking, industry is drawn to the source of the materials it uses (if they are weight-losing in processing), to save transport costs. Thus the modern dependence on mechanical power derived from coal, oil, or hydro-electricity tends to draw industry to these materials. Pittsburgh, the Ruhr, Manchuria, the English Midlands all demonstrate this tendency.

Some countries by strenuous efforts have tried to overcome their natural deficiencies, but they face a losing battle. Italy's large industrial population tries to earn enough through trade to pay for imported coal. Japan, now restricted to her home islands, also depends heavily on imported materials. Even the United States, though well supplied with fuel, must consider the full military implications of replacing the ore from the nearly exhausted Mesabi range with ores from abroad, thus losing the advantage of cheap haul through the Great Lakes.

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Coal is still the dominant fuel of the world and must be ranked highest among essential materials for economic, and consequently military, strength. It generates steam to provide electricity, has a major role in metallurgy, and can be used to make a host of chemical products including gasoline. Oil is a second important source, as a principal source of fuel for millions of internal combustion engines, and also as a raw material for the chemical industry which, among other things, supplies rubber substitutes.

Iron and steel follow closely after fuel as major essentials, but the dominance of these particular resources should not make us disregard the vital though smaller role of copper, lead, manganese, sulphur, zinc, aluminum, nickel, and tin.

Modern industry is built upon a great number of major and minor materials. Salt, phosphate, potash, mica, asbestos, industrial diamonds, graphite, nitrates, mercury—all are essentials. The metals that alloy with iron must be available if tools are to keep their cutting edges, if armor plate is to stop projectiles, or if springs are to keep their resilience. Likewise tungsten, antimony, chromium, palladium, and molybdenum must be added to manganese and nickel to expand the list of essential alloys.

From our fields and plantations, in addition to food, come cotton, flax, and other hard and bast fibres—jute, abaca, sisal, ramie, and hemp. We also depend on wool, leather, hides, and bone. Rubber, though increasingly available in synthetic form, is provided from the tropics. Our temperate area forests, wastefully cut until recently, provide us with principal building materials, with paper, a modern-day essential, with raw materials for plastics, with distillates, and naval stores.

Even water is an important resource, not only to quench our thirst and to water our crops, but also for industry which consumes it in enormous quantities. It provides transport routes and hydro-electric power, the latter of which can create nitrates for fertilizer and explosives directly from the atmosphere. Our electric power system, drawing upon the energy of water, coal, oil, and gas, is a prime target for any enemy, and its growing size is an index of our strength.

Our resources are of two types: replaceable and irreplaceable. To date, modern technology and field exploration have kept our standard of living rising despite a profligate waste of irreplaceable resources. Perhaps the sea can be made to yield what can no longer be found on dry land, but definite dangers to our economic and military strength loom not far ahead.

Strategic Materials

We define strategic materials as those critically short in relation to our need for them. One of the prices of World War II was that it greatly expanded the list of strategic materials the United States should stockpile or protect overseas, if our security is to be maintained. The appearance of an item on the strategic list should immediately set in motion measures to offset the potential danger of shortage. What steps are taken depend upon circumstances at the time, but among the possibilities are new searches at home for these materials, production controls and consumption restrictions, measures to assure overseas supply sources, creation of import stimulants and export quotas, assignment of necessary manpower to exploit sources of these materials, initiation of conservation and recovery measures, the adoption of special measures to prevent crippling sabotage of our limited supply, and the development of substitutes. Actually, in the case of many materials which are running short in usable form, there may be marginal and submarginal deposits that can be exploited, but the cost may well be inordinate in time, manpower, and capital equipment.

Resources in the ground or in the forest do not of themselves make for strength. Many richly potential stores of materials lie in undeveloped and weak countries. It is only with capital accumulation, know-how, manpower, and transport, that these resources are translated into power through production and delivery for use.

Capacity To Produce

Our assessment of a country's power must therefore measure not only its stores of materials but also its actual capacity to produce. Quantitative data of major semimanufactures and finished products give a part of the answer. These data in turn must be linked to plant capacity indices.

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Are all plants operating at full capacity? Are trained manpower, raw materials, power, and transport available to work more shifts? Next, we ask, can any of these plants readily be converted to the production of war goods? Tractor plants may make tanks. Automobile plants may switch to aircraft engines or subassemblies, or it may be that plant expansion will provide the answer to real military strength. If the building materials and machine tools can be set aside for use in new factories, rather than go directly into war production, the eventual output of war goods may be very high. All of these matters are interrelated and very complex. Knowledge is still too inadequate concerning the relative effectiveness of price and tax incentives, or of government orders and controls, to give categorical answers in all situations.

It should be stressed that military power is not measured alone by the production indices of output, capacity, conversion, and expansion, for civilian consumption may compete with military requirements. Thirty million tons of steel in one country may count for more militarily than one hundred million in another, if the latter country uses virtually all of its steel for civilian consumption, as against heavy military use in the first. On the other hand, given a big enough crisis, the rich consumer country has a bigger cushion that can be diverted to military ends, or may at least launch a great program of plant expansion. These are imponderables that are solved only by careful and qualified analysis, not by catch phrases and popular fancy. For the length of the war, the suddenness of its coming, the temper of the people, the dispersion of facilities as protection against surprise air attack, are all variables that affect the answer. There have been numerous examples of the complexity of a partial mobilization in the time since the Korean War began. How far can taxes be pushed to curb inflation without drying up needed capital for expansion or reducing traditional incentives? Will controls aid fair distribution at low prices, or will they create a huge bureaucracy and reduce total supply? Well-informed and patriotic Americans find themselves arriving at different answers.

A number of agencies and offices of the executive branch of the United States Government, assisted by private research groups and congressional staff

studies, are involved in guiding the planning for war mobilization. From their work come the plans that direct stockpiling of essential materials, the mobilization manufacturing and control plans, and the assessments of national strength. A complete assessment of our power must be compared step by step with that of our allies and our rivals to draw up the balance sheet that will indicate where there is need to expand, to divert, and to contract for national security essential to survival, but at the same time saving the mainsprings of long-range progress and traditional patterns of living. These agencies study agriculture, giving consideration to the methods used, manpower and materials demands, regularity and quantity of various crops, and availability of additional lands for expansion. The extractive industries of mining, forestry, and fisheries yield data on output per worker, capital requirements, availability of reserves, and new processes becoming available. The basic metallurgical and chemical industries have indices of production, changing methods, and varying efficiencies; for example, blast furnaces serve as an index of productive capacity, yet one country may run them harder and faster than another to increase current yield of pig iron even at the expense of destruction of capital equipment. Study of the permanent munitions industries is important to the total picture, too. The shipyards, the explosives manufacturers and arsenals, and the atomic plants, are typical cases. Certain civilian goods industries are particularly susceptible to military conversion. The television industry of America may have given civilians home receivers instead of those same resources going into a complete air defense radar net, but at the same time, the existence of a huge electronics industry will supply the conversion capacity in war for radar on an immense scale, and the coaxial cables and microwave relay networks may speed military communications. The engineering and machine tool industries are important, because their ability to produce will determine ability to turn out novel weapons of war in time to use on a mass basis.

Economic Vulnerability

Once such broad, general studies have been made of our own resources, and, with the aid of intelligence, of those of other countries, there are spe-

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cific studies and individual conclusions which must next be undertaken. One area of concern is that of vulnerabilities, both here and in foreign countries. Is the flow of raw material subject to interruption, as, for example, the Soo Locks or the TAP line? Are there technological bottlenecks in such industries as ball bearings or aviation gas? Is capacity limited by poor transport facilities; for example, the Baku oil fields and Venezuelan iron ore? Is a specialized labor force available? Can watchmakers work on precision instruments? Do we have sufficient oil well riggers? In what degree are different industries interdependent or are they competing for a common labor or power supply? Is steel available for final products or for steel plant expansion?

National power, too, is linked with defenses, for a great industrial machine unguarded is an invitation to attack. Defenses may be active, made up of radar nets, jet fighters, balloon barrages, and AA guns, or they may be passive and equally effective, such as duplication of facilities, regionally decentralized into far reaches of the country, or locally dispersed from the center of urban areas to offer targets of lower density and therefore less attractiveness. In some cases facilities may retreat to hilly country or even underground.

Transport Assessment

Increasingly, transport is being subjected to analysis and study, for it is a major factor in power. Britain's plan for agricultural development in Tanganyika, many other "backward" area development plans, and Soviet strength all have suffered from poor transport. Even the United States must consider the repercussions in the long run of low railway earnings, and of inadequate highway modernization. Assessments must therefore be made of facilities, as to capacity, efficiency in ton-miles per day, and per worker, repair and fuel needs, the bottlenecks in marshalling yards, bridges, tunnels, and steep grades.

It is difficult to measure foreign progress adequately due to incomplete statistics. Figures are rarely comparable, frequently are withheld, and often lack meaning due to inadequate qualification and definition. If only a few figures are to be chosen, the key ones for national power should include electric energy production, steel production,

and transport data such as car loadings, and ton-miles hauled.

Manpower Assessment

Manpower has already been mentioned; it represents a significant measure of power both for the present and for the future of a country, when coupled with information on geography, raw materials, and industry. Mere numbers alone, or even the military age numbers, are only the beginning for a power analysis. The data on numbers must be supplemented by detailed breakdowns on distribution by geographical location, and by density in relation to developed resources. Trends are important. Is the population stationary, rising, or falling? If it is rising, what is the *rate* of increase? At what height and when will the population level off? The sex-age group distribution or pyramid will tell what the labor force and the military supply will be now, 10 years from now, and even farther in the future. The supply of females of child-bearing age, related to other data, will forecast shifts in the population. Qualitative population analysis will help to assess some of the intangibles of national power. The breakdowns by education, cultural background, and technical skill are important. Tables on national origin, political parties, and religion may give important leads to questions of national cohesion. Economic groupings, tied to national and personal income statistics or land holdings, may answer questions on the appeal of communism or land redistribution. Although social scientists may quarrel with the statistical validity of mass personality traits, from a purely pragmatic view there seems to be definite value in studying typical traits of national character, for they may give clues to determination, objectives, subjectivity to hysteria or impatience, and other elements that influence an assessment of foreign nations' behavior.

In the long run, national population trends will have their effects on the power position and foreign policies of countries. Medical, economic, intellectual, and religious environment factors affect birth rates and death rates as well. A shift in either rate will affect population growth. Although we have come a long way from the pessimism of Malthus, the growth of the total world

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population can be a subject of grave concern. Density data as such are meaningless in isolation, for Australia will never catch up with the United States, despite her area, and China has nothing like the overall density of the Netherlands, yet is probably more "overcrowded." Net reproduction rates, adjusted for migration and possible life span changes, are key data to power calculations.

Total Power Potential

These elements reviewed in the foregoing section, then, are the basis for estimating the total power potential of a nation. No one element is dominant, neither industry, nor resources, nor manpower, but all are considered jointly with questions of geographical location, climate, and topography. Also important are the questions of vulnerability, of trends as well as of present situation, or capacity to produce munitions as well as total industrial capacity. By no means can the intangibles of national spirit and determination be ignored, and in this day and age the ability to adapt national life to so-called "Cold War" may rival in importance the strictly conventional mobilization of the nation. This brings us to the next topic, the bridge between the assessment of national resources, in the broad sense, and political relations among nations, namely, geopolitics.

GEOPOLITICS AND STRATEGY

The formal study of all the aforementioned power factors in relation to geography and national strategy is called geopolitics, a term that has been made unsavory only because of its misapplication by Nazi theorists. The scientific study of geopolitics is not only proper, but essential to our national well-being. It is of particular interest to intelligence analysts because of its possible influence on the thinking of foreign political leaders and, hence, on the strategic planning of various nations. A knowledge of geopolitical concepts may give clues, therefore, to estimates of national behavior. Treatment of this subject here can only be cursory.

Mackinder and Mahan

In 1904, an Englishman, Mackinder, introduced the concept of the world island with its heartland, safe from assault by seapower. The heartland is

described as the territory encompassing much of the Soviet Union and the suzerainties under nominal Chinese control, such as Sinkiang, Mongolia, and Tibet. The lands around the edge of the world island, which can be dominated by seapower, are referred to as the marginal crescent. The Americas are regarded as an outer island. Of course, such concepts are meaningful only in a limited sense, for new map projections, air travel and guided missiles rob the heartland concept of considerable meaning. The concepts are important, however, because they have influenced the thinking and policies of many leaders since Mackinder's time. The idea "whoever controls the heartland controls the world island; whoever controls the world island controls the world" is an oversimplification, and although it has an element of truth, it is not a substitute for the careful and detailed analysis of national power previously recommended.

Mahan of the United States Navy was the great exponent of sea power. His voluminous writings do not precisely delineate seapower, but general concepts can be derived from them. Seapower is related to the control of the commercial arteries of the world. It is the outgrowth of proper access to the sea coupled with the industry necessary to support merchant ships and navies. The right balance of fleets, control of strategic bases and fuel supplies, good training and morale, all combine to create sea power. Mahan felt that no nation has the ability and capital to be both a great sea power and a great land power, either one resulting in a serious drain on resources. Although in some way a comforting doctrine, it may not be completely valid.

Other influential writers in this field were Ratzel in Germany, Semple in the United States, and Kjellen in Sweden. Ratzel believed that geography dominated history, and he considered the state as a living organism. Coordinating his theories of selection and survival with those of Darwin, he attributed a spatial aggrandizement instinct to states—a theory somewhat difficult to support as a universal law. Semple was a disciple of Ratzel. Kjellen considered the state as not just a legal entity but as a living being. It was he who coined the expression "geopolitics," and influenced the pan-German movement, believing that

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one German state should spread from Scandinavia to the Near East.

The American, Spykman, instead of opposing seapower to land power, envisioned seapower as joining with land power in one part of the world to fight similar combinations elsewhere. Considering interior communications to be poor, he put stress on control of the rimland rather than the heartland and believed that the United States must oppose any attempt to dominate the rimland or crescent.

German Interpretations

Under the aegis of Hitler, Germany adapted Mahan's and Mackinder's doctrines to her own ends, with General Haushofer as the chief prophet. The Auslands organization and Geopolitic Institute combined studies of geopolitics with an intelligence collection program for planning Germany's strategy.

Haushofer considered that a Soviet-Japanese combination of land and sea power would be dangerous. Because of improved land transport, he tended to discount seapower and thought that if Germany could move to dominate Eurasia, its position as world leader would be assured. Specifically, he favored a number of policies which markedly influenced Hitlerite Germany. These included autarchy, (national economic self-sufficiency), "lebensraum" (enough space for a vigorous, growing people), and a three-way split of the world, in which the United States would dominate pan-America, Germany would dominate Europe including Russia, the Middle East, and Africa, and Japan would dominate Asia and the South Pacific. He saw German control of the marginal crescent as a means to add seapower to her land power. Also he believed that a nation's frontier should be along a natural boundary, for any other frontier represented no more than a temporary truce line in time of peace. Peacetime, further, was viewed just as a breathing spell between wars, a time to out-flank and encircle the enemy. International agreements were to build balance of power, not world security.

All the great powers in considerable degree have operated geopolitically, whether they recognized the fact or not. Their use of geopolitics may have been more or less benevolent, or it may have

been aggressive. The Truman Plan of containment represents an application of Mackinder's theories. Although unable or unwilling to strike at the heartland, the United States has been determined to prevent the heartland leaders from seizing all of the marginal crescent that might allow them to add seapower to their land power, and thus dominate the world.

Many of these geopolitical concepts need refinement and modification in the light of the changing conditions. Atomic concepts of warfare and power may well modify accessibility in the military sense. The Arctic no longer represents a dead space, but rather a crucial direct air route between the power centers of the world. The concept of imperial domination has been replaced by that of consultation as a guiding rule in the relationships between many world states.

Airpower Concepts

To Mahan's doctrine of seapower and the German-Soviet doctrines of land power have been added the doctrine of air power, first formulated by General Billy Mitchell and Douhet, and later vigorously presented to the public by Major de Seversky, an ardent enthusiast. While this doctrine has given rise to heated debates involving the concepts of a dominant arm versus balanced military forces of approximately equal strength, it may be concluded that sea power, land power, and air power each have their potentialities and limitations in the determination of national power.

To summarize, it must be admitted that history has been strongly influenced by geography, that defense in depth is a valid and compelling military doctrine. Though the heartland and rimland ideas have strong elements of truth, however, modern world power is based not only on location and size and shape, but also on resources, demography, technology, and transport.

Power Politics

The United States in its public conscience has disparaged power politics as an unworthy force, and as a poor approach to world relations. Yet the existence and use of power politics is inescapable, whatever this doctrine is called. We are concerned with power to control the minds and actions of men, particularly men organized to do jointly what individuals could not do. Power is

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not force in its actual exercise, but it does imply fear of force. United States power has been increased by possession of the A-Bomb, even though its use is potential. This power would be reduced if controls were placed on its use, such as prior approval by the United Nations or even by Congress, since speed of reprisal may be the most potent deterrent to a would-be aggressor. Economic power can also be used for national power purposes. Control over exports of finished goods and raw materials needed by other countries is an enormous source of power. There will be power politics so long as nations keep their sovereignty. If a few "enlightened" nations eschew its use, they will be destroyed by the unenlightened. Power politics may be used merely to hold existing positions, the *status quo*, to improve position through expansionism or imperialism, or to maintain prestige by demonstrating that power.

INTERNATIONAL POLITICAL RELATIONS

It is very hard to be entirely objective in discussing international political relations. Each nation tends to view its own conduct as above criticism and the conduct of others as frequently reprehensible. Even more, nations may often be unjustly charged with responsibility for an international situation because of the great difficulty in accurately and correctly identifying the events which led to the particular situation.

Any assessment for intelligence purposes must be impartial and analytical: motivations both of the nation and its leaders must be carefully studied. Certain general guides which may be helpful in making any evaluations involving international relations are presented in this section.

The "Status Quo"

There is nothing especially sacrosanct about the *status quo*, though this is a pretension of those who are satisfied with it. The Congress of Vienna, the Versailles Treaty, and the United Nations have all had some part in maintaining things as they were. It should be pointed out that *status quo* does not refer to freezing of existing boundaries, though on occasion it may take that form, but rather to maintaining an existing balance of power. Those who maintain existing situations, even though unfair, may have the weight of inter-

national law behind them and be the upholders of "peace." All challengers, of course, are called "war mongers," regardless of the cause for which they struggle. Certainly, those who would resort to force carry the burden of justification for their acts, and their propaganda is rarely adequate, or accurate.

Imperialism

As opposed to the *status quo*, imperialism represents an attempt to bring about a favorable *change* in a current world power situation. It refers to a nation's policy aimed at an extension of power over another area with or without the approval of the peoples concerned. The motives, and the means, for gaining this additional power may be economic, political, military, or ideological, or a combination thereof. Any analysis of this phenomenon of national behavior will result in the conclusion that it is exceedingly complex.

For many years, the term imperialism has been in disrepute as the result, partly at least, of its association with the policies of colonialism and territorial aggrandizement carried on by various European nations during the latter nineteenth century at the expense of backward areas. During that time, a predominant motive was economic competition, coupled with the search for larger markets and sources of food and raw materials. However, there were other motives, such as the desire for expanded political power and prestige which might exert a dominating influence in world affairs, the real or assumed need for providing greater guarantees for national security, and the search for sources of potential military manpower as well as areas of expansion for surplus population.

There are curious inconsistencies in the interpretation of this term. Mussolini found it an expression of a nation's vitality. Marx and Lenin explained it as entirely a product of capitalism, a "dying" stage in which there was an inevitable struggle between national monopolies in the international arena. They reasoned that by definition communism could not be imperialistic because it did not have the same need for new markets and trade. In popular fancy, imperialism has been associated with the "machinations" of Wall Street and the munitions makers, the Japanese *Zaibatsu*

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emperor-worship, or the exploitation of colonial subjects. But these interpretations are inadequate, since imperialism predates modern capitalism by thousands of years and, from the American viewpoint, communist and socialist states have demonstrated positive imperialistic tendencies, regardless of the labels used.

The policy of imperialism has been considered one of the causes of war. Wars actually arise for many reasons which are usually composite and complex in nature. There are so called "defensive" wars, designed to keep the *status quo*, but which often seek a permanent change in power to prevent effective challenge to present positions. Other wars are deliberately designed to expand the power position of a country, even when it is not threatened. The power vacuum theory applies in some cases, too, when the strong powers, rushing to dominate a newly weakened or discovered area, clash in their efforts for supremacy. This situation has been more recently demonstrated in Greece and Korea. A few aggressive nations, either for supposedly lofty or for very base reasons, have also set out deliberately to conquer the world by one means or another.

Can compromise be considered a solution to the ambitions of such aggressive states? Repeated examples from history, some quite recent, seem to suggest that, at best, compromise may only shift the time table for further aggression. This may not be wholly bad for the compromiser, providing he can use this time to good advantage. Rearming and defense pacts, important and inescapable as they may be, are not in themselves an absolute guarantee of peace, for they may create a vicious circle of counter moves by the opponents, with no solution short of military, economic, and psychological conflict.

Many excuses have been given for imperialism—the "white man's burden," a "sacred trust," "lebensraum," "ethnic unity," "defense against encirclement," and others more idealistic, such as "liberty, equality, fraternity." We considered both world wars anti-imperialist, and of course for opposite reasons they were so regarded by many Germans and Japanese fighting against us. The Monroe Doctrine could be considered either *status quo* or imperialist, depending on the viewpoint and circumstances of assessment. How-

ever, from an objective point of view, it should be understood that these terms, the *status quo* and imperialism, are intrinsically and morally neither good nor bad. What these terms actually mean when applied in international relations depend upon the objectives, motivation, and circumstances of particular national policies.

World Powers

World powers today can be grouped into three general classes. The great powers are the United States and the Soviet Union. The United Kingdom may still be considered a great power, too, although now less able to stand alone in the world. The regional powers, which wield considerable influence in particular parts of the world, include such countries as France, Argentina, Brazil, China, and India. In a third category are the client powers, such independent states as Uruguay, Costa Rica, Luxembourg, and Egypt. Even though their independence may be important to their citizens and even to mankind, their continued independence is at the sufferance of the larger powers, and their conduct is largely conditioned by external events. Under international law each sovereign state is equal, and American policies in considerable measure have aimed toward support of this doctrine; however, law cannot hide the fact that states are not equal *in power* and never will be. A country like India, with hundreds of millions of people, cannot be equated in all circumstances with a state like Liechtenstein, even though each is sovereign. This has been recognized by the United Nations by its system of permanent seats in the Security Council, and the veto system, which is not wrong in itself, but only in its abuse. The tests of a great power, behind all the polite words and agreements are (1) to be able to threaten force, (2) to have the ability to pay the price in a showdown of force against force, (3) to have the capacity to wage active, autonomous war with its own resources.

This realistic approach to power is not meant to show cynicism for the efforts which certain countries, including our own, have made to achieve a better world for all on the basis of sovereign equality; far from it. It is merely intended as an examination of the basic forces of existence and survival that lie behind our best efforts.

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Nationalism

The armed forces of any nation, if they are to carry out their assigned missions, must have a sense of nationalism, to know why they are fighting for their country. Extreme nationalism may be unworthy in a world that considers itself civilized, when the brotherhood of man, in the best Christian sense, is a worthy goal. But nationalism of itself is not bad. It may be the only means of attaining worthwhile goals. We love our rich and beautiful America; we want to raise our families in peace and happiness; we believe in the American heritage of freedom and individual dignity. The willingness of military men to sacrifice their lives for such goals is, in effect, an expression of nationalism.

Nationalism has its basis in the demand of particular groups for complete sovereignty. Internationalism on the other hand admits the surrender of some aspects of sovereignty to a broader control. Each has its proper place, and the United States for valid reasons orients its policies both ways. No nation is willing to surrender all sovereignty until there are guarantees that what is held most sacred will not be harmed. But in countless fields, from the assignment of radio frequencies to the control of drugs, we willingly subordinate our complete control in the interests of world order.

Nationalism, in many ways an intangible force, grows out of race, religion, language, or historical and geographical circumstances. Small countries, lacking real power, sometimes substitute an exaggerated feeling of nationalism. In some ways nationalism, as we know it today, is a relatively new development. In both ancient and medieval times, loyalty was shared between local people and local rulers, as a matter of mutual protection in the unsettled times in which they lived. In the Western world, a broader spiritual and cultural community was effected through the Christian church in its struggle for survival and growth. The development of a money economy, the end of serfdom, and the Renaissance brought larger states and a gradual transfer of loyalties to the symbol of the monarch and the state. An expanding interest in philosophy and many other multiple forces combined to help the concepts of democracy and self-determination emerge. A new liberal

nationalism gave the chief loyalty to the state, and the ruler became at most a symbol. But sometimes the forces of nationalism, instead of leading to liberalism which recognizes the rights of minorities, leads to totalitarianism and more strongly authoritarian states. Democracy, as we know it, is a very fragile thing, even though it has a considerable will to live among those who understand it. Nationalism and individualism, therefore, are frequently in conflict, but nationalism *per se* is not to blame, but rather the use that is made of it, for nationalism may be the champion of freedom. The United States, therefore, needs nationalism, internationalism, and individualism; all three are inherent in its traditional political and social heritage.

Some countries, including our own, also face the problem of national minorities. The major group, united by race, religion, or language, may not be the sole occupants of a political state. National minorities, people bonded together in varying degree by different forces, may be no problem at all, or they may constitute a threat to the solidarity and power of the dominant group. In the United States, for example, there are a great many sectional differences, social and political, which appear more serious to foreign observers and critics, than they really are. India, for example, has religious minorities that continue to hamper complete national solidarity.

Balance of Power

So the world is organized into multitudinous groups, sometimes working together, sometimes at cross purposes, gathered politically into larger units known as sovereign states or dependencies. These units in turn settle their differences by war—military, economic, and psychological, or by substitute devices which will be examined in the pages ahead. One means of avoiding war, or of jockeying for position to be at the best advantage, is through power politics, as already mentioned. Another means is through balance of power maneuvers, by which nations may achieve an equalizing of forces to avoid or postpone war. This equalization may be achieved without destroying the individuality of the separate states. However, balance of power entails many devices and, in some degree, each affects the policies of all states. One

device is the familiar "divide and rule;" another is to prevent unions of competitive states. It is often stated that British policy in the past has been to seek a balance of power in Europe with Britain as the strategic key to the balance. When Napoleon was rampant in Europe, Britain was allied with other states against France. When the Kaiser and Hitler threatened, Britain was arrayed with the French and others opposed to German expansionism. In connection with the balance of power approach, it must be remembered that situations constantly arise requiring vigorous remedial steps which may or may not be successful.

The National Interest

What constitutes the "national interest" by which states always claim to be guided? Perhaps its origin was in the personal interest of the ruler, and with the change to nationalism, the idea of national honor developed. Some wars have been fought for reasons of national honor. Honor alone may be too idealistic or Quixotic for some; the jailing of a citizen for the pulling down of a flag may not be considered excuse enough to plunge nations into war with great cost in lives and resources. National interest, however, if accurately assessed, is a realistic, practical consideration of events from the viewpoint of national welfare, both present and future. American national policies in earlier years were largely internally oriented, due to the farm interests in domestic land expansion. Industrial growth had its political and national consequences when a new interest in raw materials and markets dictated naval expansion. Tremendous responsibility for interpreting the national interest—economic, military, and "war of life"—rests with the President, as well as the Congress. For example, U. S. participation in the Korean War was interpreted as essential for reasons of national interest.

It is because events in far away places like Korea and Iran and Germany are cumulative in their effects toward a buildup of destructive force that they cannot be ignored. America's national interest is and must be the determining factor in American reaction to any world events.

National Character

This discussion raises a related question, that of "national character." Is there such a thing?

America has attempted major reforms in Germany and Japan through political, economic, military, and educational changes. Will these changes be permanent? The answer is not simple. It may be that class characteristics are more valid in definition than national characteristics, and particular groups or classes may dominate policies and national viewpoint. Militarism, or communism, or idealism may dominate in different situations. Cultural patterns do affect the definition of "national character." It was suggested earlier that national character may be susceptible to analysis, but it is important to remember that it is complex and not wholly predictable.

Sovereignty

Sovereignty has been referred to earlier as a characteristic of states. It grew out of a combination of two doctrines, that of the divine right of kings, and that of the free will. Combined and transferred to the state, it has been the outcome of the necessity for an unchallengeable and supreme power to make and enforce the rules that bind society together. Such centralized power is the essence of government. Further, there can be no international law with real meaning unless there is sovereignty to consent to it. Perhaps the corollary doctrine is that one sovereign state should not interfere with another, though this is more difficult of accomplishment. Sovereignty does imply an equality among states, but only legally speaking, since this is a practical impossibility. A state can voluntarily accept restraints on its affairs without destroying sovereignty. Though states are legally equal, they may not have equal rights in all respects, and their independence of action may be more ephemeral than real. With the passage of time some states have lost their sovereignty and ceased to exist. This happens when, voluntarily or involuntarily, the final authority over their actions passes to another state.

International Law

International law is subject to considerable abuse and even more misunderstanding, yet it holds together the fabric of international society. Its elements of administration, enforcement, and adjudication have come from many sources. Domestic legal concepts throughout the world are not uniform enough for international law to be

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complete. Some law is based on common law, on precedents; other law is administrative and *ad hoc*, with judicial decisions playing a smaller role. International law comprises both kinds, drawing on evidence in the form of direct treaties, conference agreements, treaties of third parties, decisions of international and national courts, state papers, opinions of unofficial bodies and individual scholars, and even upon the "general principles of justice."

Some of the earliest recognized international law relates to the sea, which is one reason why the Navy has always been so interested in this field. The commerce of the Hanseatic League led to the foundation of international rules of conduct, and Grotius is credited as the father of formal study of international law. At an early period international law also dealt with the rules of war. It deals with conduct both on public and private levels, and also becomes a part of the domestic law of most states. Its limitations are that it is applicable only in certain situations, that it is somewhat uncertain and slow to develop, and that it cannot be legislated or executed in the ordinary sense. But it is developing and should grow increasingly important. Now criminal law is being added to international law, and the theory of non-intervention is undergoing change, while the rights of neutrals are being reduced. There is general condemnation of genocide, and support of a bill of rights for individuals. Even if these rights are not yet universally accepted, they are on their way to inclusion in the law. Genocide includes not only actual killing of ethnic groups, but also sterilization, breakup of families, or submersion of culture. The international bill of rights includes the concept of due process of law, denies involuntary servitude except in wars or emergencies, and allows no arbitrary restrictions on freedom of movement, public trial, religion and press, assembly, and similar elements familiar to Anglo-Saxon jurisprudence.

International law holds that jurisdiction over particular cases may hinge upon the territorial principle (where the act occurred), the nationality principle (that of the guilty party), the protection principle (through national interest), the principle of universality (as concerning pirates), or the passive principle (that of the injured party).

The principle of territorial jurisdiction is most firmly established. Where individual parties subject to one jurisdiction are required to appear before another jurisdiction, their possible extradition is a matter of treaty.

Recognition of one state by another under international law may be either *de facto* or *de jure*. *De facto* means that although no formal treaty is signed and representatives are not exchanged, for all practical purposes the one state admits to the sovereignty and authority of the other over a particular territory and people. This may have its naval application, when our government does not choose to recognize a foreign government. Naval commanders must be very careful that they take no action that could be interpreted as *de facto* recognition. *De jure* recognition, of course, is that granted by formal treaty and exchange of envoys.

The Laws of War

One of the chief concerns of international law is war, for in its modern form war invades every aspect of life. Early writers could not agree on a definition of war. It obviously refers to the use of force between states, but not all such cases constitute war. War, from the point of view of international law, is not *per se* bad, for the law deals only with its conduct, how it was begun, the behavior of neutrals and belligerents, and its ending. The legal recognition of a state of war affects matters of contraband, blockade, and censorship. Domestically it affects contracts and government controls. Such questions arise as to whether a state of war can only be declared by Congress, or whether a Presidential declaration of an "emergency" which requires action by armed forces is legally war. Under international law, the formal declaration is not necessary. Only one of the parties needs to intend war. However, police actions and armed intervention are not necessarily war. There is the presumption of intent to make war by certain overt acts, especially if so regarded by the victim, but even now there is no sharp definition.

The question of defensive versus aggressive war also arises. These are equally difficult of definition; it is not so simple as who fired the first shot, for some self-defensive acts and proper exercise of sanctions would then be ruled out. In practice,

regretfully it must be said, the winner was the "defender," the loser the "aggressor." In summary, then, war, as such, is not illegal; it is the prerogative of the state.

Causes of War

Much has been written about the causes of war, and such studies should be of concern to the intelligence officer, because he has a continuing interest in studying cause and effect patterns, particularly in the field of war. However, the causes of war are not easy to find, although many have been suggested. An "instinct of pugnacity" in man, hate, military general staffs, munitions makers, and many others that do not stand the tests of universality, have been suggested. War usually is not an end in itself, but serves as a final means of settling disputes, preserving rights, and remedying wrongs. Granted that it is a profligate means, increasingly so as it threatens the survival of the race, mere recognition of this fact does not solve the problem. Wars will continue to occur until a substitute is found, and other means to ensure security, defense, and justice must be provided before weapons will be surrendered. Disarmament, limitation of weapons, education, treaties outlawing war all have great merit, but they do not solve the basic problems of war, which are most complex.

Psychologically, war springs out of fear, suspicion, greed, lust for power, hate, revenge, jealousy, and envy. When great tension has been built up, war represents a release from pressure. There are also economic causes: aggressive imperialism, both territorial and economic, and competition for markets, energy sources, or essential raw materials. Wars may start from government protection of private interests abroad, without particular reference to the general welfare. On the other hand, failure to protect citizens and property abroad with decisive action may also lead to war. Disregard for the rights of "backward people" and population pressure, at least in its indirect effects, are additional causes. Political causes include balance of power maneuvers, secret treaties, violations of unjust treaties, disregard for minority rights, deliberate organization for war, and even ineptness in government. There are many others: exaggerated nationalism, competi-

tive armaments, religious and racial differences, general ignorance, and even war psychology, induced by press, radio, motion pictures, text books, family influences, social inequalities, social sanctions, and a lack of spiritual ideals.

If all the above causes could be removed, would war then disappear? The possibilities are poor according to some theorists who believe that war is cyclical, that it is related to survival of the fittest, that heredity and environment cause it, that it is a culture trait, an instinct, an institution, and part of the stepladder of evolution. These theories are far from encouraging. Accordingly, preventive devices, such as a world state, have been suggested. Critics of this plan, however, have pointed out that super-sovereignty might largely result in a shift from international wars to "domestic rivalry" just as difficult of solution. It is obvious that great difficulties are involved in determining the causes for war and that there is as yet no general agreement as to either causes or effective solutions. Until such a time, the grim realities of modern total war must be faced.

Prevention of War

The prevention of war is a major task of the larger nations of the world, although it should be stressed that prevention is by no means their only task nor does the word imply a philosophy of "peace at any price." Since the prevention of war is aided by any limitation of warlike tendencies, the means available to do so must be employed to the maximum degree. There are several means. One is negotiation, the use of diplomacy and conferences. Actually hundreds of minor incidents are settled by diplomacy, and thus do not become causes for war. A third country frequently offers its "good offices" in a dispute, or even goes so far as to mediate the quarrel. Commissions of inquiry may be established to aid the settlement. Conciliation may move on to arbitration, voluntary or compulsory, but even arbitration does not necessarily force acceptance of decision. Such measures seem to work best on problems of private law and economic matters, rather than on strictly political matters. Conciliation is on the borderline between straight negotiation and the compromise of arbitration. A

third general approach is through the use of judicial means, but in the international sphere acceptance of a court decision is dependent on the willingness of the parties. Major political issues, therefore, have seldom been solved in world courts.

When diplomacy fails to solve problems of war, security measures may be of help. These take many forms. Disarmament and arms limitation have had United States support but with limited success, because few countries are willing to cooperate whole-heartedly. Unilateral disarmament coupled with neutrality laws has met with no more success. Ratios of limitation, or standards of allocation, are most difficult to establish. Security through education alone is illusory, for even if we are progressive and educate against war, will our enemies do the same? Passive resistance has been proposed and even used, as by Gandhi's followers, but they were opposing the British who have a conscience and are responsive to public opinion. Aggressors generally do not have scruples, and then passivity only hastens slavery. The Kellogg-Briand pact made a novel approach to war: it outlawed "aggressive war,"

but not "defensive war," and of course each sovereign state reserved to itself the decision as to the nature of the war it fought. The issues of isolationism as an approach to peace have been debated in the United States and elsewhere. Still another approach to peace is through collective security, which may mean alliances or even a world body and world police force.

Peace between nations is a long-sought goal; the dimensions of the problems involved are best realized perhaps by those who first attempt to define war itself, isolate its causes, and find its cures. The purposes of this chapter have been much less ambitious, and limited to a consideration of the basic elements of power and the general prerogatives and behavior of states in their power environment. However, since war is expressive of a particular power relationship between world states, a better understanding of the elements of world power should lead to a fuller appreciation of problems of war. Other power relationships between nations, such as those expressed in terms of foreign policies, are the general subject of the following chapter.

CONFIDENTIAL**CHAPTER 7****THE UNITED STATES AND THE WORLD**

While the preceding chapter on Elements of World Power dealt largely with concepts and principles, this chapter will review more specific developments in foreign policy, in international organization, and in economic relations that are of particular intelligence concern. All facets of the problems presented by the topics of this chapter obviously cannot be discussed because of space limitations, but it is hoped that those mentioned will stimulate further thinking and study. It is also appropriate to suggest here that the solutions of problems arising out of relationships between states can seldom be considered in terms of absolutes: good or bad, white or black. The complexities of these relationships give rise to a variety of alternative choices which often have relative values. It is for this reason that good intelligence must reflect shades of meaning in order that all potentialities may be fully recognized.

AMERICAN FOREIGN POLICY

The creation of the foreign policy of the United States is the role of both the executive and legislative branches of government. Indirectly, of course, it is affected by every kind of individual and group reaction. Its abstract nature makes it difficult of analysis, but it is the product of certain major fields of common concern. One is national security, which relates to our geographic location, military strength, industrial power, and manpower, as described earlier, and which is changing due to new forces at work in the world. A second major concern is related to our economic situation, namely, the degree of industrialization we possess, our world trade interests, our raw material needs, our problems of unemployment and price levels, the availability of funds for investment, and related phenomena. A third major concern is peace, and all that it implies, for peace is a predominant desire of the American people.

Formulation and Execution of Foreign Policy

The constitution of the United States reserves matters of foreign policy to the Federal Govern-

ment, a concept which has been upheld in many court decisions. The Federal Government can negotiate treaties, legally "declare" war, receive foreign diplomats, appoint ambassadors, and regulate foreign commerce. States, of course, can make lesser arrangements with foreign countries, if Congress approves. The President, as head of the executive branch of the government, is chiefly responsible for foreign policy, for through the Secretary of State he handles official communications with other governments, decides upon their recognition, and determines states of belligerency and neutrality. The actual declaration of war is a congressional right, effected by the two houses meeting in joint session. Congress can strongly influence foreign policy through its legislative acts, such as the tariff, and the House of Representatives has a special power through its initiation of appropriations. The President and the Senate share the right to make treaties and appoint envoys. Senate ratification of a treaty negotiated by the executive branch requires a two-thirds majority vote of those present. A device increasingly popular is the "executive agreement" in place of the treaty. Its ratification requires a simple majority of the members of both houses, which is often politically more expedient than the standard treaty. Congressional interest in foreign policy is illustrated by the large number of Congressmen traveling abroad to investigate a great variety of subjects and conditions. Foreign policy usually cuts across political party lines, and the party platforms in recent years have not differed materially in this respect. In matters of foreign policy, while the American people respond readily to moral and ethical principles, as mentioned previously, they, as any national group, react most rapidly to the needs of self-defense. A brief historical survey of the development and dominant features of American foreign policy will provide a useful background for the better understanding of its current operations in connection with other world governments.

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Isolationism and Expansionism

The exact meaning of George Washington's injunction against entangling foreign alliances has been long debated. It has been generally agreed, however, that his concern was in permanent alliances with foreign nations, and that he did not mean to impose a ban on all close relations to meet temporary situations. If a recommended policy of isolationism is to be implied from his remarks, certainly at the time it was a suitable policy for a weak country far removed from the European scene and well occupied with an inland frontier. But even though in the past the United States has avoided close political contacts, its trade and economic relations have always been tied in with the rest of the world. While true that the Monroe Doctrine, for example, was isolationist in one sense, in another it was interventionist because it was unilaterally proclaimed by the United States in sympathy with the Spanish rebels in Latin America. Nor can it be forgotten also that this doctrine for many years relied for support on the strength of the British Royal Navy.

Internal expansion across the North American continent was followed before the end of the nineteenth century by expansion into Alaska and overseas into the Caribbean and the far reaches of the Pacific. The reasons for expansion beyond the continental limits of the United States are many and certainly cannot be blamed on the economic lobbyists alone. For example, many sugar interests were actually opposed to intervention in Cuba and, in the Philippines, the United States might have withdrawn from there as readily as it did from Cuba had it not been for the postwar revolt. Our difficulties with Colombia over the Canal Zone were restricted to control over a narrow strip of land, coupled with handsome remuneration to the injured party, an unheard of act in that day. Our interests in Nicaragua, Haiti, Santo Domingo, and other nearby countries never led to actual colonization, although a later approach to inter-American relations has been that of mutual consultation rather than unilateral action.

The Open Door in China

In China, United States policy was long that of the open door; self-interested, yes, but at the same time it may have saved China from being carved

up into colonies like most of the rest of Asia. America's interest in China dates back to the days when our clipper ships traded at Canton for tea and silks. In the middle of the nineteenth century, China was forced to open additional treaty ports to foreign commerce, with concessions granted to a number of countries including our own. China had gradually lost many outlying territories and suzerainties. The French had taken Indo-China and dominated Yunnan, Kwangsi, and Kwantung together with the leased port of Kwangchowwan. Russia had taken the Amur Valley, had railway concessions in Manchuria, and dominated Outer Mongolia. Germany had Kiaochow and dominated Shangtung. The British held Hong Kong, Kowloon, and Weihaiwei, and controlled the Yangtze Valley. Earlier they had taken Burma, and had a degree of control over Tibet. Italy attempted to obtain Sanmen Bay in Chekiang, but was not successful. Japan, as is well known, persistently pressed for territory and privileges, acquiring the Ryukyus, Formosa, Korea, and later Manchuria. In 1899 Secretary John Hay proclaimed our open door policy to put an end to further territorial seizures. We never really backed it with force until 1941, and since then the progress of events has swept away the opportunity for its application. It was a generally favorable factor in our relations with China for many years.

The First World War and Its Aftermath

First trying to be neutral, we finally entered World War I as a crusade for democracy, with the issue of freedom of the seas a major consideration. After the war we found ourselves at odds with our allies and facing new and unfamiliar problems. Reparations, war debts, financial boom at home, then worldwide economic collapse were aftermaths of the war. Economic nationalism and autarchy, foreign aggression and dictatorships of right and left followed. The deterioration of world affairs in the 1930's brought us back to war again.

The Second World War

With much of the world in flames our neutrality acts were quickly shown to be no guarantee of peace. We transferred our ships to neutral flags to rush supplies to Europe. The sudden collapse

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of western Europe under the German onslaught brought a vast rearmament program, and overage destroyers, preserved from the first war, were exchanged with Great Britain for bases. By the summer of 1941 the Navy was in effect at war to protect the western half of the Atlantic, despite the doubtful legal status of such protection. Our policy stiffened in the Far East as well, although we were woefully unprepared for major action. Many Americans had to revise their thinking during that period, though the full shock of discovering that we were arrayed against strong antagonists in a worldwide struggle was not felt until the attack on Pearl Harbor.

Moves for Security

Our international relations after 1940 underwent successive policy changes as our leaders and people began to assess the meaning of events as they unfolded. Our primary concern was with our security. In the summer of 1941 off Argentina, Newfoundland, Churchill, and Roosevelt met to agree on common principles and war aims. We emphasized that we were not interested in territorial gains, and recognized the right of people to choose their own form of government. We agreed upon a postwar cooperative order that called for free access to raw materials and markets, subject to existing commitments. We called for disarming aggressors, pending the arrangement of a general security system. We championed freedom of the seas, and expressed the famous four freedoms of the Atlantic Charter, freedom from want, freedom from fear, freedom of speech, and freedom of religion.

Most of the successive important international conferences dealt largely with the prosecution of the war, but several important doctrines related to the present world order were enunciated and agreed upon during that period. At Casablanca, in 1943, Britain and the United States announced the "unconditional surrender" doctrine. Whether right or wrong, this stand may well have had a permanent effect on the war and its aftermath. Although Stalin was invited to attend the next meeting held in Quebec City, he failed to come. China participated in the negotiations of November 1943 at Cairo where the Atlantic Charter was reaffirmed, and where it was agreed to strip Japan

of all territories outside the four main islands, with minor exceptions. The Teheran meeting later that month was the first time Roosevelt, Churchill, and Stalin actually met in person. Because of Soviet neutrality in the Pacific, Chiang Kai-shek was not invited. The broad strategy of the war in Europe was planned, and the demand for a "second front" was renewed. The Russians, of course, had a second front on the European continent in 1939-40, but at that time they chose to be neutral. Antagonisms and differences of opinion were evident even in this first meeting. Churchill favored an attack into the Balkans through the Vardar Valley, while Roosevelt called for a frontal assault on Western Europe because of military and political considerations including recognition of Soviet interests in a second front in Europe. While this may represent an over-simplification of the strategic views held, it suggests the nature of the differences that developed.

Idealism

Meetings nearly a year later at Dumbarton Oaks considered proposals for the postwar international peace machinery. Continuing differences over policy caused President Roosevelt to agree to a trip to Yalta to try to reach a better understanding with the Soviets, for as allies they were in no sense as reciprocal of plans, men, and supplies as were our British partners. The Yalta conferences dealt with the treatment to be accorded Germany, and the difficult task of forming a workable United Nations Organization. Representation in the organization was the first problem. The United States modestly requested only one vote, but since the independent members of the British Commonwealth wanted one vote each, the Russians demanded seventeen, one for each constituent republic. The U. S. S. R. finally settled for three, technically taking one for the Ukraine, and another for Byelo-Russia, in addition to one for the U. S. S. R. There was agreement that in the present state of the world the major powers should retain a veto over substantive decisions of the Security Council. We thought also that we had won the promise of free elections and independent states in eastern Europe. This proved illusory, to say the least. In an effort to shorten the Pacific war and thus save American lives, we reacted

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favorably to a Soviet promise to declare war on Japan, and tentatively accepted Russian domination of the Kuriles, Southern Sakhalin, Dairen, and the Manchurian railways. The assessments of this meeting, with its secret agreements, remain highly controversial.

In the spring of 1945 the meetings in San Francisco established the United Nations Organization. President Roosevelt died in April and Germany's final collapse came in May. At the time of the Potsdam meeting in August, of the original Big Three only Stalin was still in office, for Attlee had replaced Churchill. The Soviets were ready to enter the war against Japan, and did so soon after the atomic bombing of Hiroshima and Nagasaki. A completely demoralized Japan facing invasion of her home islands, surrendered in response to the Potsdam Declaration. At Potsdam, general plans for the former German satellite states were formulated and the zones of military occupation for Germany and Austria were established. A Council of Foreign Ministers to represent the Big Three, plus France and China, was created.

Realism

In reviewing the record of these wartime conferences, it is interesting to note the shifts of position that occurred. Our first concern was that of security, for we were engaged in a struggle for survival, but as the end of the war came in sight, we entered a phase of idealism. With the benefit of hindsight it is now easy to see that the Soviets carefully adhered to the long-term policies which have placed them in opposition to ourselves. Any lingering doubts about the Soviet's real intentions were quickly dispelled in the months following the war. Countless efforts to show good will and to go more than halfway were met with no response from the Soviet delegates, who continued an attitude of suspicion and distrust. The record shows that we wanted peace and were willing to make any reasonable concessions, but no agreement proved better than the Soviet intentions of living up to it.

New problems arose to plague the foreign ministers and their deputies faster than the old ones could be solved or shelved. Satellite treaties, interference with elections, atomic energy, the

Italian treaty, and control of the Danube were debated at great length. Only the strongest of protests through the United Nations brought about the withdrawal of Soviet troops from Iran, thus averting what might have developed into a Soviet military penetration of the Middle East. The Morgenthau Plan for Germany and reparations on the scale demanded by the Soviets were finally abandoned. The position of the United States toward Germany gradually shifted when it was realized that Germany's deficits would eventually be paid by the American taxpayer, and that a prostrate Germany meant an impoverished Europe. Gradually the United States passed beyond the idealism stage and began to see the shape of the Soviet menace.

Cold War

Various aspects of the cold war further accentuated this menace. In a major test of strength the Soviets imposed a land blockade of Berlin in 1948. Controversial issues leading to this action included the quantity and kind of West Zone reparations to the Soviet Union, the currency reform which started West Germany toward economic recovery, and the action taken to unify the American, British, and French zones of occupation. Another factor was the Soviet desire to eliminate a Western Island in East Germany. The Soviet blockade was met with counter blockade action by the western allies and an arduous though successful airlift. Although the blockade was finally lifted, a few false moves on either side might have led to war.

Steps taken by the United States to strengthen the economies of western European countries and later their military forces, as mentioned previously, were all part of the cold war which increased in intensity with the outbreak of armed conflict in Korea in 1950. Trouble spots in Indo-China, Malaya, Iran, and the Arab world only served to accentuate the dimensions of this smoldering menace.

Relations With Latin America

Any discussion of United States foreign policy must include developing relationships with the Latin American countries to the south. Pan-American relations have improved greatly since

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the time of the enunciation of the Monroe Doctrine, the end of our territorial expansion, and our difficulties with Spain over Cuba. The formation of the Pan American Union in 1890 led the way to better relations with the Latin-American republics, culminating in the well-publicised "good neighbor" policy in 1933. We eschewed unilateral intervention among all the American states. Our policies have now centered on preserving the independence of republican governments, recognizing the equality of each country, maintaining their territorial integrity, and urging the observance of existing treaties and the peaceful settlement of disputes. Continental solidarity has been the goal, coupled with nonintervention in internal affairs, but with extensive cooperation in all other matters. The degree of success has been fairly high. Eventually, all the American republics entered World War II and a number shared in lend-lease, and made available antisubmarine air bases as required for convoy protection. The treaty of Chapultepec, ratified at Rio de Janeiro in 1947, binds all states on a two-thirds vote to come to the aid of any member state that is attacked. One of our more persistent remaining problems has been sporadic disagreement with ambitious and energetic Argentina.

Far Eastern Relations

United States foreign policy in China since World War II has been more controversial and the facts involved may be slow to emerge with any clarity. It is clear, however, that the former "open door" policy of equal access by any nation to China has been swept away during the course of the twentieth century by world events. Chinese nationalism flared up as early as the Boxer rebellion when there were demands for the expulsion of foreigners. In 1911 came the revolution headed by Sun Yat-sen that destroyed the Manchu Empire. His Kuomintang party has favored expulsion of foreigners and political tutelage of the people until a proper, constitutional government can ultimately function. Sun Yat-sen's revolutionary techniques were studied and adapted by Lenin, for in the early 1920's Soviet and Kuomintang relations were quite close. After Chiang Kai-shek made his successful march north from Canton in 1927, he tossed out his Russian advisers

and broke relations with Communist Chinese forces which withdrew into the interior, finally making Yen-an their headquarters for many years. General Mao Tse-tung was the leader of this dissident group. In 1931 the Japanese made new advances into Manchuria, establishing a puppet state; in 1937 the war moved south of the Great Wall to extend Japanese control to all the major rail arteries and port cities of northern and central China. During World War II the Chinese fought a desultory war against the Japanese, for all their normal supply routes and most of their industry were in Japanese hands. Nationalist and Communist forces were united in an uneasy truce against a common enemy.

At the end of the war the United States helped to ferry large numbers of Nationalist divisions to the coastal cities, north China, and Manchuria, together with supplying considerable amounts of war surplus equipment. The Communists were equally determined to control these territories, and swept out of the back country to lay waste the railways of the area. With Japanese equipment, probably turned over by the Soviets, they proved a strong opponent to the Nationalists. General Marshall's mission failed to find a solution to this problem acceptable to the parties concerned. Truce violations, attrition, inflation, and armies changing sides brought disaster. Before it was over, all China was Communist, aside from Formosa and mainland guerrilla forces of mixed allegiance.

FOREIGN POLICIES OF OTHER NATIONS

It is not possible here to discuss the guiding foreign policies of all other nations, but a few abbreviated examples will at least illustrate the complex and shifting nature of policy manifestations, usually in support of some fairly persistent basic national drives.

France

France was long the problem child of Europe. Arrayed against the Hapsburgs and the Holy Roman Empire, she aimed at territorial expansion and predominant continental power which required conquest and the sponsoring of "independent" German states. Louis XIV also looked to French-Spanish union, and control of the Low-

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lands, but was opposed by the British. Napoleon, in the name of the French revolution, though with somewhat modified objectives, did sweep much of Europe. But after his defeat, French policy in Europe largely abandoned expansionism in favor of secure frontiers. French expansionism was later to be active again overseas. It was only at the turn of the nineteenth century, some years after Germany had united into a strong nation, that 400 years of British-French rivalry in Europe came to an end, and certain colonial difficulties were settled by giving Britain dominance over Egypt and France control in Morocco. Following the second invasion of their homeland by the Germans in World War I, security became almost an obsession for the French. They favored a breakup of Germany, the demilitarization of the Rhine, and defense in depth. The withdrawal of the United States from European affairs may have been a factor in the French sponsoring of the "cordon sanitaire," consisting of alliances of the States bordering Germany to prevent any resurgence of military power. Italy, following World War I, felt that not all wartime promises had been kept and withdrew from her former allies. The French occupation of the Rhineland in 1923 was an attempt in part to force Britain into a position of greater support, but the British were not too amenable, and gave some support instead to the Germans. Government changes in France and Germany brought closer cooperation between the two countries temporarily, and the French withdrew from the Rhineland.

Growing German nationalism was clearly revealed by the 1936 remilitarization of the Rhineland in violation of the Versailles treaty, which collapsed much of the French defense plan. This change made it difficult for France to offer any real military support to Eastern and Central Europe in the event of German aggressions. While France worked harder to build up the Maginot defense line, she left her frontiers with Belgium and Luxembourg unprotected. French and Italian relationships were very confused: rivalry was strong in places like Tunisia, yet a partial understanding gave Italy a free hand in Ethiopia. War came to Spain. It was a proving ground for Communist and Fascist armies, with a few misguided liberals on the fringes, and the common people

were the victims. The Polish corridor question was boiling. Buying time, or doing wishful thinking, Britain and France, though rearming, watched Austria, Czechoslovakia and Memel go to Germany. The Low Countries still thought in terms of neutrality. The sudden shock of the German-Soviet agreement of 1939 was the last step before the partition of Poland and the beginning of World War II. France, still feeling the heavy cost of the first war, subjected to the divided policies of unstable governments and the weakening influence of the Front Populaire, was ill-equipped for war. What had been the greatest army in Europe fell before the Germans, destroyed partly by the politicians behind its back, partly by poor strategy, partly by fatalistic apathy.

United Kingdom

British policies are famous for their thorough relation to long-range British needs. Well-suited to an island people close offshore from a fermenting Europe, they are naturally keyed to British self-interest and have opposed entanglements on the mainland. The British have aimed at a balance of power on the continent, to prevent its domination by any one group which could then threaten British security. For the last four centuries the British have had no European territorial ambitions, although they have been active overseas. They have taken what steps were necessary to protect their islands, to keep world trade routes free, and to assure the security of their overseas holdings. These aims have naturally enough made seapower a prime weapon. The British usually make short-term alliances in Europe as required, though they have long continued close relations with Portugal, a remnant of earlier needs to counter Spain. Whenever the Rhine estuary and the Scheldt River are threatened, the British always fight. They have long felt Russian rivalry overseas, since the Russians have long sought access to the Indian Ocean and the Mediterranean, both intimately related to Britain's imperial lifeline.

Postwar concentration of power in the hands of the Soviet Union and the United States has required some British adjustments. As a result, Great Britain has associated closely with the United States in such common undertakings as the

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United Nations and NATO. In areas such as the Middle East and the Far East, however, British and American interests have not always been coordinated. In Europe the British have been consistent with their basic policies in delaying on the Schuman steel plan.

The purpose of this quick review of various foreign policies has been to emphasize that in the world, as it actually is, any nation that is to survive as a great power is motivated by self-interest and will do whatever is necessary for survival. Aware of these facts, the intelligence officer is better able to understand and interpret the foreign policies of nations.

INTERNATIONAL ORGANIZATION

From the philosophical and even the practical outlook, men have long recognized the existence of a world community. The western world, for example, is joined in common spiritual values. Transport improvements and trade needs have also made materialistic interdependence very great, which in itself has demanded a degree of world organization. We have progressed from bilateral treaties to the partial recognition of international law, and increasing reliance is being placed on multilateral agreements and the creation of permanent international bodies with many powers. The achievements of international cooperation have been many. Examples are the International Red Cross, control of telecommunications, control of rivers for international use, standard weights and measures, weather reporting, hydrographic services, copyright rules, health regulations, and controls over slavery and narcotics. The failure has been at the political level and as a result, when states go to war, many of these cooperative and successful economic or technical arrangements are jeopardized.

The League of Nations

There were many early attempts at multilateral international settlements, typified by the Congress of Vienna in 1815. At the end of the 19th century and in the years prior to World War I, the Hague Conferences attempted to set up an international order, but the first comprehensive attempt, sponsored by President Wilson, was the creation of the League of Nations in conjunction with the Versailles Treaty.

The League was effective in the economic and social fields. It failed on the key question of security and power because of an unwillingness of its members to make it really work, to implement in full what it could do. The League could impose sanctions on aggressors, but being a pioneer effort, it was not designed to have unlimited power. Although the Covenant established the League, the interpretation of responsibilities rested with the individual states. It was largely a body of war victors, their friends, and their self-governing former colonies. Later other powers joined, with the exception of the United States which alone of the major powers remained aloof. America's unwillingness to participate directly in the League was based in part on its unfortunate experience in power politics and unpaid war debts. We did, however, remain interested in the League during the years it functioned, and always had an observer present at its meetings, occasionally considering the idea of entering, with reservations, to protect our position. When it finally suited their convenience, Germany, Italy, and Japan withdrew from the League to pursue their courses of conquest. The Soviets were expelled for their attack on Finland.

The League was paralled by the World Court whose judges were able to settle many disputes in those cases where countries voluntarily submitted to its jurisdiction. The League was also closely allied to such bodies as the International Labor Organization, which in their specific field of concern, were able to do good work. The importance and success of all of these supplementary activities were dwarfed, if not lost to the public eye, by the magnitude and seriousness of world security problems which the League failed to solve thereby dooming itself by inaction. Italy bombed Corfu in 1925, and the League failed to act decisively. The Lytton Commission did study the war in Manchuria in 1932, but had no way to enforce its recommendations. The Paraguay-Bolivia Gran Chaco War was not settled by the League. In the Ethiopian War sanctions were ordered against Italy, but not all members carried them out.

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The United Nations Organization

Some of the same basic elements which made up the League are to be found in the United Nations organization. It has a General Assembly of all member states, a Security Council with the big powers and regionally representative members, a Secretariat, an International Court of Justice, ECOSOC (the Economic and Social Council), and finally the Trusteeship Council.

The ECOSOC is made up of a large group of activities including: ILO (International Labor Organization), FAO (Food and Agricultural Organization), UNESCO (United Nations Educational, Scientific, and Cultural Organization), ICAO (International Civil Aviation Organization), the International Bank for Reconstruction and Development, the International Monetary Fund, WHO (World Health Organization), IRO (International Refugee Organization), ITO (International Trade Organization), UPU (Universal Postal Union), ITU (International Telecommunications Union), WMO (World Meteorological Organization), and IMCO (Intergovernmental Maritime Consultative Organization). ECOSOC concerns itself with matters of economics and employment, transportation and communications, statistics, fiscal affairs, population, social problems, human rights, the status of women, and narcotic drugs. It has as suborganizations the Economic Council for Europe, the Economic Council for Latin America, and the Economic Council for Asia and the Far East. ECOSOC by its very nature does some of the less spectacular and more successful work of the UN. Officially it has 18 members, appointed to 3-year terms, but it operates with many ad hoc committees and nongovernmental organizations. It has no exclusive jurisdiction, no permanent members, no veto problem, no coercive power; it is largely fact-finding and coordinating. Those recommendations bordering on domestic matters require domestic enactment to become effective. In a practical sense, it is at work on the causes of war aside from those which are political or military. Actually the ECOSOC fights communist objectives; while the communists are trying to destroy economic order to hasten world revolution, ECOSOC is attempting to restore order. Despite this, the

Soviet Union has joined several of the ECOSOC activities when it has been advantageous to do so.

The General Assembly represents all member nations, each with one vote, though any size of delegation may be sent. This body discusses any matter it chooses and may pass recommendations to the Security Council. A two-thirds vote of the General Assembly, plus the approval of the big five in the Security Council, can amend the charter of the organization.

The Security Council has 11 members, including the United States, the United Kingdom, the Soviet Union, China and France (all with the veto power) and 6 other members for 2-year terms "elected" by the General Assembly on a regional basis. For example, a typical distribution is 1 British Commonwealth member, 2 Latin American members including 1 from the ABC powers (Argentina, Brazil, Chile), and one member each from a Soviet satellite, a West European state, and an Arab League state. The Security Council deals with major political disputes and can impose sanctions. It has a military staff to aid in this duty. It also has an armed forces committee and an atomic energy committee.

The Secretariat, of course, provides administrative and research services while the Trusteeship Council is responsible to the General Assembly for the mandates and trusts administered by members. Some of these are former German colonies, others, the former Japanese holdings now under UN control.

Regional Organizations

The United Nations has attempted to avoid the failures of the League of Nations. Certainly it cannot be blamed for failure to end the cold war, because its success depends upon the honest intentions of its more powerful members. Merely having the machinery for peace does not solve the problems of the world communist movement and Soviet ambitions; in fact, the UN organization was not originally designed to fight this kind of battle. For this reason many types of regional international organizations have been created with definite functions to perform. The development of some of these organizations, patterned after the relatively successful Pan American Union, was stimulated by such events as the fall of Czechoslo-

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vakia to "internal" forces. For example, Belgium and Luxembourg have long had a customs union. With the addition of the Netherlands to this combination, and an extension of purposes, these countries established "Benelux," an economic union, sensibly designed to overcome some of the handicaps of small size. Such a merger is complex, for it not only removes tariff walls, but requires agreement on fiscal and monetary policies, the same regulation of prices and business, and a single legal code. Such changes do not come overnight. Benelux attempts at economic unity were paralleled by the grouping of the Brussels Powers, namely, the Low Countries, Britain, and France, into a military alliance with increasing standardization of weapons and organization. In like manner the U. S. Marshall Plan on the economic level was matched by NATO, wherein the United States joined with the Brussels Pact countries plus Canada, Portugal, Norway, Denmark, Iceland, Italy, Greece, and Turkey to form a military alliance. This movement was given significant support by the United States Military Aid Program and the assignment of General Eisenhower to the top command. The Schuman Plan, aimed at the integration of coal and steel industries in western Europe, has been a significant effort toward economic unification of the participating countries, notably France and Germany.

Still another regional development has been the Council of Europe, not unlike a miniature General Assembly of the UN. It has only consultative powers, but conceivably could result in European federation. Although Winston Churchill was one of its early proponents, the British position is affected by triple interests, European, British Commonwealth, and United States cooperation.

The growth of these various original organizations has been stimulated by the unwillingness of the Soviet Union to cooperate within the UN. Examples of this unwillingness are many. Prior to the outbreak of the Korean War the UN had tried for several years to solve the problem of this divided country, but the Soviets would not allow UN observers in North Korea. Even though the UN had demonstrated its ability to aid in the settlement of problems in such areas as Palestine and Indonesia, it could not even gain

access to Czechoslovakia. Early attempts to create a permanent UN police force remained completely deadlocked. The United States offered to supply two divisions, ten to fifteen air groups, and two naval task groups; the United Kingdom was willing to commit half the Royal Air Force; all told, some two million men were offered. But the question of the veto power deadlocked further discussion. The questions of disarmament and atomic energy met with similar difficulties, since both conventional and mass destruction weapons must be considered in any real disarmament plan.

The United States' position on atomic weapons was a generous offer to share its knowledge with the world, including world ownership of materials and facilities and complete inspection to prevent secret violation of rules. However, there could be no veto of swift punishment for all offenders. Even though such a plan is realistic if atomic controls are to be workable, they strike at the heart of the Soviet system of secrecy and isolation. Accordingly, the Soviets, with a vast land power strength in conventional weapons, made the counterproposal that the United States destroy its atomic weapons, which constituted a vital source of military power, and that the veto power be retained by the five major powers. In the light of Soviet previous conduct such an arrangement did not seem to be consistent with survival. Of course, subsequent to the UN debates on the control of atomic power, it was learned that the Soviet Union was making rapid atomic progress herself by combining espionage with the best scientific brains at her disposal.

The issue of veto is one of the most crucial in the UN. The United States, like the Soviet Union, believes in the veto, but recognizes it must be used in moderation if the organization is to function at all. Actually, the charter of the UN does not discuss the veto. It calls for 7 of 11 votes affirmative to pass motions, except that motions which are substantive in nature, not just procedural, require affirmative votes of the big 5 among the 7 or more votes. A state which is a member of the Security Council can be deprived of its vote when it is a party to a dispute, *unless* the issue involves a threat to the peace which is then called a "situation." Actually the veto power is abso-

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lute, for the question of whether an issue is a "situation" or a "dispute" has been considered a substantive one, and no power will vote itself out of a veto on a crucial issue. By vetoing any attempt to declare an issue to be procedural, a big nation never loses its decisive power. This is commonly referred to as the double veto. A state can veto a decision to make a question procedural, then veto it again as being a substantive matter.

In exasperation many national leaders watching the record of mounting Soviet vetoes in the post-war period have turned to regional plans, or have recommended expulsion of the Soviets, or have talked of a new UN designed to be a real world government. The UN obviously is not perfect, but many of its functions are very useful.

INTERNATIONAL ECONOMIC RELATIONS

As a basis for reviewing economic relations between world states it is well to remember, first, that states depend on various resources for their power, and second, that economic interdependence and political ambitions have brought them into continuous contact with each other. It has already been pointed out that the greatest progress in international organization has been in the economic sphere. This is natural because economics, like intelligence, is largely a matter of hard-headed realism, and economic interdependence is frequently dictated by compelling economic reasons. The United States and the Soviet Union continue to trade, even if on a reduced scale, because there are sound reasons for each to do so. In varying degree, trade is carried on indirectly even by belligerents in most wars. This is of itself neither good nor bad, and is hardly different from other measures dealing with the conduct of war, such as the Geneva Convention for the treatment of prisoners. However, from the viewpoint of the individual state, it is bad when individual citizens secretly trade with the enemy in contravention of national policy.

Economic Systems

Economic relations are, of course, directly affected by some of the main forces at work in the economic world expressed in terms of economic systems. Perhaps the two extremes of these systems are "free enterprise," on the one hand, where

economic decisions are made by individuals, and "communism" on the other, where the state is the source of all decisions. There are other variations, of course, but these are the two major extremes of present-day concern. In between are state socialism, as practiced in Scandinavia, and systems which in general support free enterprise but impose certain controls. The British Labor Government, for example, attempted public ownership of the basic industries, allowing "freedom" elsewhere. In general, the United States has kept private ownership, but has increasingly added central controls.

A brief summary of the historical development of this Anglo-American economic system is illustrative of the complex forces which shape such systems. The modern era of economics began when the rigidities of society inherent in a system of "status" gave way to business by "contract." The new money economies and trade were coupled with royal grants of monopolies of all possible variety. The 18th century brought strong new philosophies of individualism, and the beginnings of the industrial revolution. It was Adam Smith's *Wealth of Nations* in 1776 that called for an economic revolution that would match the political revolution in America. No simple pattern of orderly development followed, for many of the old restrictions were only partially removed, but in considerable degree free competition and automatic forces were the rule. The pressure of competition encouraged the exploitation of new inventions, and material progress was very real. The inefficient and obsolescent plants went bankrupt. New enterprises, or those able to adjust to changing conditions, reaped profits that were plowed back into new machinery and other capital equipment. The corporation, an artificial legal being, became dominant in many fields over the partnership or individual enterprise.

Very early, however, the need for regulation of monopolies was recognized, not as a contradiction to free enterprise, but as a necessary policing step to maintain it. In the United States the Granger laws and the Interstate Commerce Act of 1887 were typical of these controls. The Sherman Antitrust Act was of broader applicability. In the years that have followed, the American system has become increasingly more hybrid, and govern-

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ment has a voice in almost every phase of economic life including labor laws, security regulation, and agricultural supports. Increasingly, too, the power of government has been expanded by the emergency use of price controls and allocations, and taxing power and spending power have enormous indirect effect on the direction of economic life. Social security and direct public investment in electric power and atomic energy represent further departures from abstract "free enterprise."

Trade Relations

The effect of economic systems on international relations is often to be found in the circumstances of trade between nations. Since current trade relations reflect those of the past, a brief resumé will be helpful to general understanding.

The world of Adam Smith was dominated by mercantilist concepts. The preceding centuries had seen national states established and the switch from feudal barter to money economies. Spain had poured gold and silver from the New World into Europe, but for countries without a supply of gold and silver for their expanding economies, the only way it could be obtained was through privateering (a polite word for legalized piracy) or through the regulation of international trade to keep exports greater than imports in order that this difference could be received in bullion. This intense interest in the acquisition of gold and silver was a primary feature of mercantilism. There is not space here to expose all its economic fallacies, but any elementary text on the subject will make clear, as did Adam Smith, that real wealth lies in resources and labor, not in gold or silver, from the national point of view. It is no compliment to present-day thinking that most of the false concepts of the mercantilists are still with us in one form or another and still accepted by many people.

The pressure of mercantilist theories had its effect in the struggle for colonies with supplies of precious metals, and in restrictive regulations to hamper freedom of shipping and of commerce, thus adding to the tensions and pressures that bring war.

After Adam Smith, the following period of the classical economists was reflected in governmental

policies leading to a breakdown of many tariff barriers and trade restrictions. England in particular became the champion of free trade, though actually the greatest free-trade area in the world is the United States itself, where no real tariffs are in force among the 48 States. In no small sense, United States world leadership in economic progress can be attributed to its continent-wide free trade.

Moderate tariffs during the 19th century were coupled with the use of the automatic gold standard for exchange. The gold content of the coinage of each country set the par of exchange, while free market fluctuations of the exchange rate were held to narrow limits by the ability of traders to ship gold to pay trade balances as an alternative to buying bills of exchange. A continued imbalance of imports against exports of a particular country, including "invisible" trade (such things as shipping services and immigrant remittances), if not corrected rapidly by shipments of gold and adjustment of the price level, was caused by the processes of international investment. A country borrowing capital from abroad in effect receives that loan in goods, and this is reflected in a so-called "unfavorable" balance of trade; namely, more imports than exports. When the interest payments come due and when the principal is repaid, then exports exceed imports. The details of the mechanism are of no concern here, although it may be noted that the terms "favorable" and "unfavorable" balance are in themselves rather meaningless carry-overs from mercantilist days.

World War I severely altered international economic relations. It had marked effects on the finances and money systems of the world, and new trade patterns developed. Impoverished by war, attacked by inflation at home, in heavy debt through reparations demands or borrowings, many countries sought to redress their position by exchange controls and tariff barriers. Many had abandoned the gold standard during the war period, and now were on paper standards. Post-war unemployment was frequently countered by import restrictions and "buy at home" campaigns. Although intelligent people could see the ultimate damage to export sales of such restrictions, it was the easy course to take countermeasures and add more restrictions, even though the gains would be

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temporary. Facing the political dangers of unemployment, in some cases even revolutionary danger, it was easiest to sacrifice long-range standards of living in some degree in order to maintain employment through autarchy. This analysis, of course, is greatly oversimplified, but the facts of spiraling trade controls, quotas, and exchange manipulations are the important ones to remember. The dangers of war inherent in policies which deny some countries equal access to markets and resources have been expressly recognized by American leaders from the time of the Atlantic Charter. However, at subsequent similar meetings, corrective action on an international scale has lagged behind recognition because of the many intricate problems involved.

Attempts to free international trade have been vastly complicated by domestic economic controls in all parts of the world. State socialism is likely to lead to state buying in place of individual trade, as is the case in Britain's dealings with Argentina, and price supports at home mean drastic trade regulation, as is the case with agricultural imports in the United States.

So-called normal trade patterns have also been strongly affected by world events since 1939. On a scale undreamed of before in world history the United States through lend-lease poured out a tremendous flow of munitions, foods, and industrial materials to its allies, to save the world from German-Japanese fascism. As a practical measure it provided a means for arming the allies in a common cause and obviated many of the debt difficulties of World War I. It was based on the stated premise that free nations must stand together in the face of a great common danger.

Trade Agreements

The particulars of recent trade policy include names and doctrines with which the naval intelligence officer should have at least a limited acquaintance. Although there are some multilateral international trade agreements, especially on certain commodities, most trading arrangements are bilateral in nature. The particular treaty devices adopted by the United States have led, however, to many multilateral effects. When

two countries sign a treaty of friendship and commerce, opening their ports to each other's ships, they frequently promise "national" treatment to each other's businessmen and citizens. This means they guarantee foreigners equal treatment before the courts, and usually the right to engage in business on the same basis as nationals, though there may be a few exclusions. For example, we reserve coastwise shipping, domestic air service, and fishing in American coastal waters to our own nationals.

Our treaties are also usually made on a bilateral "most-favored-nation" basis, which really means "equally favored." The net effect is that if new tariff concessions are extended by either party to a third country, the signatories agree to extend the same privilege to each other. There are minor exceptions, such as the British Commonwealth preference agreements, and special American concessions to Cuba and, for a time, to the Philippines. Furthermore, we usually extend "most-favored-nation" treatment on an unconditional basis, which means that no new *quid pro quo* is required because agreement as to what constitutes equivalent concession is very hard to reach. Our aim is to minimize the restrictions on trade, although some of the most ardent free-enterprise businessmen often favor high tariffs and small quotas.

In 1934, the United States returned to a form of additional trade negotiation it had used in earlier years, the now well-known Reciprocal Trade Treaties. In exchange for additional concessions on selected items that were most important in trade with a particular country the United States, by executive agreement, lowered its import tariffs (still on a "most-favored-nation" basis) even more. While these concessions are less subject to direct pressures by protectionist interests, the most elaborate safeguards are provided by means of public hearings to give full voice to affected American industries. We do not grant concessions on items we have in surplus. We have special penalties on "dumping," and even we use the "quota," a weapon more powerful than the tariff. In addition, when changed conditions require new protection for an American industry, these agreements have escape clauses.

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Multilateral Agreements

Multilateral agreements in the control of trade are best exemplified by the activities of the Food and Agricultural Organization, which establishes international quotas and price controls on certain agricultural commodities. Further, the International Trade Organization of the United Nations establishes the fundamental machinery to collect trade data and takes corrective action to remove trade inequities that might lead to war. This organization, which the United States has championed as a companion to the World Bank and the International Monetary Fund, is a beginning, but so far has demonstrated little concrete accomplishment, since the obstacles it must overcome are tremendous. Of course, so long as the world is fundamentally divided in objectives, most of these agreements can have only limited success. The present ITO agreements give lip service to freedom of trade and no discrimination, but are so hedged with escape clauses that their practical effect is very limited. The choice has been to have the machinery established, or to have nothing, since the policy of free trade has not as yet been made possible.

The milieu in which our trade policy is applied is not entirely of our own making, but results from events in all parts of the world. When immediate post World War I restrictions had eased slightly, and several of the major powers returned to the gold standard in the late 1920's, the New York stock market collapsed and we stopped investing in Germany. Those investments had given Germany the apparent power to pay reparations, and thus in turn enabled Britain and France to pay war debts. The collapse of the Kreditanstalt bank in Austria spread financial panic in Central Europe, and the flight of short-term capital began, eventually leading to a heavy gold inflow into the United States. This threatened exchange stability abroad, and eventually forced most nations off the gold standard. In 1930 our passage of the Smoot-Hawley Tariff Act, as an answer to mounting unemployment at home, was soon matched by British abandonment of their traditional free trade policies, which had already been weakened. "Buy British" and Empire preference became the rule. A special British trading arrangement was made with Argentina in

1933, the first of many, due to the close commercial relations between the two countries. The United States and Britain did not join in a reciprocal trade agreement until 1938. World War II brought virtual free trade between the two countries, for after the British exhausted most of their foreign investments paying for munitions during our "cash and carry neutrality" days, lend-lease and the postwar loans became major trade factors. Postwar Britain has been heavily engaged in state trading.

The Soviets, since their seizure of power in 1918, have used state trading exclusively, though during the temporary N. E. P. period they did grant some private licenses for trade. The Ministry of Foreign Trade controls all Soviet trade today, setting up foreign corporations abroad to do its buying. Special commodity trade combines under the Ministry set their quotas in accordance with an overall economic plan. In the United States, *Amtorg*, a New York corporation, is the sole Soviet representative. *Amtorg's* more sinister espionage activities have already been mentioned.

Foreign Investment

Many trade difficulties have been linked directly with problems of international investment or capital flows, both long-term and short-term, from one country to another. It should be pointed out that long term private investment takes two forms, direct and portfolio. Direct investment is illustrated by the great activity of United States firms in establishing branch plants in the Western Hemisphere countries. Portfolio investment refers to the purchase of securities in foreign concerns without the direct responsibilities of construction and management. The United States government has encouraged private investment abroad as a necessary measure to improve international economic good health. One of the economic problems is that the heavy American export flow, which has materially aided many countries and also maintained high employment at home, must be paid for in one or more of several ways: (a) by taxpayers helping to pay the costs; (b) by government or private citizens making investments abroad; (c) by an equal flow of imports. The fourth alternative, that of ending this export

trade, has not been seriously considered in the present world situation. Since imports either have not been available or have come in competition with domestic goods, they have not been of major assistance. According to various economists, the best answer is investment now, with two-way trade as soon as possible. Our interest in private enterprise naturally favors private investment, even though the problem is political in many respects, because outward movements of capital cannot really be considered investments unless there is a strong possibility of later dividends and repayment. Private investors are more likely to be influenced by such factors, and to place their money soundly, since they have no reason to weigh political considerations. One great trouble has been that private investors have frequently lacked incentive for foreign investment. Political instability and chaos, fluctuating exchanges, heavy taxes, and confiscation have all meant loss to previous investors. Consequently, the trickle of such private funds abroad since the world depression has been quite small, except in a few "safe" areas. Government loans have had to replace such private flows.

War Debts

Financial adjustments growing out of the two world wars, as has been indicated, have been dominant forces in world economic relations. In the first war the United States loaned enormous sums which actually went abroad in the form of goods. There was not enough gold abroad to pay for them, yet we were unwilling to accept repayment in kind; namely, more goods. We felt that the contractual obligation was separate and apart from the question of reparations receipts by our debtors. Consequently, there was extreme bitterness of both sides, and payments with minor exceptions were halted.

Germany surrendered at the end of World War I on the condition that no punitive damages other than war losses, were to be collected. But the Allied estimates of losses were astronomical. Of course, they were not completely paid, but in the process of trying, Germany experienced the complete inflationary destruction of her money system, and the accompanying despair has been identified as a factor in the rise of Hitler. The policy after

World War II was quite different. The United States kept title to lend-lease goods. Perishables were written off as one of the costs of the war. Durables were either returned, or transferred after the war at the best figure we could negotiate. Some of these mark-downs were tremendous. Of course, the significance of the mark-down has meant little in most cases, since our policy has in considerable measure been one of underwriting the foreign exchange deficits of those countries important to our defense which followed prudent fiscal and monetary policies.

Following World War II some war debt settlements were made. In the case of a few countries, reverse lend-lease had been sufficiently great to cancel out direct lend-lease. Great Britain agreed to settle a lend-lease "debt" of \$24 billion for \$650 million to be paid over a 52-year period at 2-percent interest. Also, in various countries some settlement funds were made available under the Fulbright plan for the interchange of scholars, when such funds were otherwise blocked because of exchange difficulties. However, no agreements were ever reached with the Soviet Union which received 500,000 vehicles, 14,000 planes, 7,000 tanks, 2,000 locomotives, 11,000 freight cars, and 600,000 tons of ships.

Reparations

The end of the war brought with it the problem of reparations. The Soviet Union had suggested that it should receive twenty billion dollars worth of German reparations, separate and apart from any "war booty," which was a flexible term that could well include any property in territories occupied by the Red Army. At the time, the United States was not demanding reparations but, under the influence of the Morgenthau Plan concept, was thinking in terms of converting Germany from an industrialized nation to an agricultural state which could never again threaten the world with serious aggression. There were many astute observers who had misgivings about such a plan because of its economic consequences, not only for Germany but for all of Europe. While we did recognize that Germany had no export surplus with which to pay reparations, we envisioned that the dismantling of German war and heavy industries could supply capital goods reparations re-

quired for the rebuilding of wrecked factories in a number of countries.

By one way and another, several countries did collect some actual reparations. Poland was compensated by receiving important German territories. The Soviet Union stripped much from the territories occupied by Russian troops, and appropriated German external assets in Eastern Europe even when they represented goods or securities stolen by the Germans. At fictitious prices the Soviets also bought control of most industry within their zones. The United States picked up portfolio German assets in Switzerland and Latin America. Dismantled plants in Western Germany were moved to Russia, partly as reparations, partly to pay for food imports from Eastern Zone.

Economic Recovery

Within a short time, the United States finally recognized in official policy that German economic recovery was essential both to European economic recovery and to avert chaos and communism. However, this required such sizable money grants from the United States that any reparations passed to other countries became actually equivalent to grants in aid from the United States. Therefore, the first charge on German exports was considered payment for imports, which substantially ended any large shipments of goods to the East. Because of initial confusion, the three Western Zones ultimately set up unified economic controls, but some dismantling continued for a time, even after the official view had swung to the point where it was felt a halt should be called. The failure of the Soviets to receive all that they demanded became an additional factor in East-West tension.

In the case of Japan, the Potsdam Declaration set forth general conditions for postwar treatment. War industries were to be destroyed, but a viable economy was to be left. External assets were taken over, and, for a period, considerable amounts of capital goods were shipped to the victims of Japanese aggression. The Soviet Union regarded its enormous prize of Manchuria, acquired in less than a week of war, as "booty," not a part of reparations. This was very costly to China, destroying for years to come any real hope of economic advance. In time the United States

came to the position of making up Japanese trade deficits, first for relief purposes, then for economic recovery. This ended further reparations, and the Peace Treaty of 1952 fairly well closed the matter, despite the reservations held by the Philippines, Indonesia, and a few others.

In the interests of an economically and politically stable world, the United States felt obliged to extend economic aid not only to Germany and to Japan, but also to our allies, since they lacked the recuperative powers that we possessed. Their heavy purchases of food, industrial materials, and increasing amounts of capital goods in this country, caused the so-called "dollar shortage." Therefore, lend-lease military aid was followed first by UNRRA food and clothing, and then by a series of other measures. We sponsored the European Payments plan to try to restore multilateral trade in Europe, and then the European Recovery Program, a combination of self-help, American technical guidance, and Marshall plan goods, with stress on permanent improvements of output rather than current consumables. The Economic Cooperation Agency was the American governmental body set up to administer these functions.

The Marshall Plan and Military Aid

The Marshall plan was an astute and statesmanlike offer to the world, although the Soviet Union condemned it as an effort on our part to achieve world economic domination. Because of the Soviet position, their satellites had to withdraw acceptance of invitations to Paris to discuss the plan, and the further division of the world into East and West continued. American aid and European response raised the physical indices of European production well above prewar levels, but still left Europe woefully weak militarily against the threat from the East. The Truman plan of containment with military aid for Greece and Turkey became necessary in order to save the West's strategic position in the Mediterranean. The Soviet answer to the Marshall plan was not only invective, but also the creation of the Molotov plan, which tied the satellites even closer to the U. S. S. R. The Cominform, the latest manifestation of the supposedly dead Comintern, was also brought into the open.

Scarcely had the phenomenal and substantial economic recovery of a number of countries seemed to justify the Marshall plan and point toward its termination when new problems arose. The growth of the Soviet military menace to Western Europe, and indeed to the whole free world, indicated a new and general need for accelerated rearmament. However, military demands on the budget and material of the Marshall plan countries threatened to undo much of the progress that had been made. Vigorous measures by the countries concerned were hampered by both internal political problems and public apathy toward defense.

United States military aid was a response to the economic and political problems faced. Both Britain and France were experiencing particular economic difficulties because of additional burdens imposed by the wars in Malaya and Indo-China. In the opinion of many government leaders, the important economic fact of military aid was that the issue of arms shipments versus more economic aid was one of expediency, not of fundamentals. Economic aid, if reflected in arms manufacture in Europe, might be cheaper than arms shipments; but if the latter meant arms sooner, the higher cost might be justified.

The Allies had recognized even before World War II ended that strong economic measures of international cooperation were needed to provide the basis for a working world community. The prewar arrangements for bringing stability to exchange rates were studied and strengthened at Bretton Woods in 1944. The International Monetary Fund to stabilize exchanges (short-term capital movement), and the International Bank for Reconstruction and Development to ease long-term capital movement problems were created. However, these measures alone, important as they were, could not provide enough support to restore the world economy. That is why the European recovery plan and "Point Four," a world-wide plan for development of backward areas, came into being. The military aid program was harder to foresee, for the cold war was not of our making.

International Transport

Without transport there would be neither international relations of importance, nor modern war machines. Consequently, the intelligence of-

ficer should know something of the workings of transport—the devices used, the control and management, and the regulation, both national and international. Some of the most complete international controls have developed in Europe, where modern technology with high speed and cheap movement contrasts most sharply with the small political units crowded into a compact geographic area.

Modern economic life is closely linked with railways, the chief form of land transport throughout the world. They acquire significance because of their combination of a fixed right-of-way and mechanical power, forming networks that allow the delivery of freight and passengers without transshipment and at low ton-mile costs anywhere in a big territory. Such networks require a standardization of track gage, clearances, couplers, and brakes. We have developed a great North American net with a track gage of 4 feet 8½ inches, covering Canada, the United States, and Mexico. A second great network of the same gage covers most of Europe outside of the Soviet Union and Iberia, though there are many European local feeder lines of narrow gage. There are smaller networks in Manchuria-China, Argentina, and India-Pakistan, though some of the latter systems are more handicapped by a variety of gages. The standard being developed in Africa is 3 feet 6 inches. Australia hopes to convert her state systems to the American-European standard. The Soviet standard on their extensive system is 5 feet. Europe's railway controls include international agreements on technical standards, car interchange, rates, timetables, and accounts. Many of these arrangements go back to the last century.

The commerce of international rivers and some connecting canals are also subject to joint regulation. The Danube and the Rhine are outstanding examples, although under German and then Soviet domination, international control of the Danube in particular is illusory. A more generalized type of treaty usually regulates the use of rivers flowing through or on the borders of more than one state in all parts of the world.

Roads are more local in nature, although this characteristic is changing as long-distance trucking develops abroad as it has in America. How-

ever, there are agreements as to licensing, liability, and traffic signals. Roads still remain mostly feeders to railways in many foreign lands.

Pipelines, except by bilateral treaty, have not figured as directly in international agreements, although a few, such as those from the Persian Gulf to the Mediterranean, are of very great political and strategic concern.

International regulation of ocean shipping has been somewhat different from that of land transport, for international law has recognized the high seas as free to all users, with questions remaining only about the limits of territorial waters, use of oceanic canals and straits, and the rights of belligerents and neutrals. Just as railways have been very important to economic advance, so too has cheap ocean transport been made reliable by large steel steam or diesel vessels. The role of the merchant marine and its problems should require no explanation for any naval officer. Only recently has specific international regulation become more extensive. Conferences on safety at sea and rules of the road are being supplemented by discussions of wage rates, subsidies, and working conditions. In the future, the regulations set by international agreement might increase.

Regulations governing air transport among countries are very complex, an inevitable development, since aircraft have such great military and political implications and, unlike ships, are not obliged to stop at the frontier of a country, but can fly to any place on the globe irrespective of boundaries. Early discussions of air law matured in 1919 into the first detailed set of rules. Public and private air law were merged under a single body,

the International Civil Aviation Organization, after the Chicago meetings in 1944. Regulations govern the licensing, inspection, registration, and technical standards of aircraft, communications, statistics, routes, and rates are all controlled either through the ICAO, the International Air Transport Association, or by bilateral agreements.

Communications, too, bind together the whole world and consequently are internationally controlled. These controls include not only the Universal Postal Union, but also the International Telecommunications Union, which assigns radio frequencies, establishes rules on telegraph and radio codes, and controls access to and use of these facilities.

Within this chapter have been presented some of the major geographic, economic, and political forces that shape the environment of the world of which the United States is a part and in which the Navy must do its job—fields of concern which must inevitably affect the thinking and action of intelligence officers. Obviously this review is not a substitute for the years of background reading and study and the constant day by day interest in following current developments that are required for proper analytical assessment of events for intelligence purposes. The only aim has been to refresh the thinking of the naval officer, to stimulate him to do further reading in areas beyond his acquaintance, and thus to improve his intelligence perspective. The following chapter will outline the problem the United States and the free nations of the world face in the menace of communism and its chief exponent, Soviet Russia.

CHAPTER 8

WORLD COMMUNISM AND THE U. S. S. R.

The reality of the menace of communism as a militant political force is evidenced by the fact that Communist dictatorships now control one-third of the population and almost one-quarter of the inhabited areas of the world. In many non-Communist states, organized groups propound the doctrines of communism and exercise considerable political influence. But communism is not only a political force. Supported and directed by Soviet Russia, world communism has become the most extensive mass movement based on philosophical teachings since the advent of Christianity, and more disturbing, it is a tremendously powerful force subversive to the democratic way of life as enjoyed by the United States and other freedom-loving peoples of the world. Thus it constitutes the greatest problem we face today. However, for the citizenry of the United States, and for the naval officer, this problem must not only be identified; it must also be understood if adequate solutions are to be found. It is therefore appropriate to review briefly the doctrines of communism, their historical development and utilization, and, finally, some of the elements of power of the Soviet State which is the chief advocate of Communist doctrine.

THE BACKGROUND OF COMMUNISM

Communism, in theory, is far from new. Expressions of it are found in Plato's writings and in literature even before his time. From time to time in various areas, efforts were made to put certain fragments of this theory into practice. Marxist "Scientific" Socialism, or modern communism, as a social philosophy evolved out of conditions which existed in 19th century Europe and drew extensively upon the intellectual thinking of the 18th century philosophers. The Age of Reason in 18th century Europe brought an awakened interest in philosophy, economics, and politics, a questioning of old beliefs, and a search for new approaches to the problems caused by social and economic change. Although the indus-

trial revolution eventually led to a higher standard of living, it also brought unusually harsh conditions of labor for many people. The individual initiative and healthful environment of an agricultural life and the simplicity of handicraft manufacture were increasingly replaced by the regimentation of the factory, the unhealthy conditions of the mine, and the complexity of highly organized industry.

In trying to adjust to life in this new order, social philosophers of the period began to consider once again the age-old question of how the common man can improve his standard of living. At the same time, economic conditions were being analyzed and economic principles were being formulated into a broad body of doctrine by the so-called classical economists. Some of their doctrines, with considerable elaboration, form the skeleton of modern economics, but many of their explanations of economic functions were based on very artificial or even false assumptions. Other writers not only tried to explain the world as it was, but sought solutions to some of the inequities of existence. Variant forms of cooperative life and socialism were suggested as replacements for the laissez-faire capitalism of the day. Some short-lived experiments in cooperative societies were made on a small scale, but most of these were abandoned when it was found that new problems replaced the ones they were trying to solve, or that all failings could not be attributed to capitalism alone.

One of the intellectual theorists of this period, Karl Marx, was to exert an influence on Western civilization out of all proportion to the significance of his teachings, which have been thoroughly discredited. Very much a product of his age, Marx conceived of himself as a prophet, a realist, a materialist, and a social scientist utilizing "scientific" methods. This unique mixture of missionary fervor and spurious scientific theory was to be translated into action to an amazing degree by a small band of devoted followers.

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THE THEORY OF COMMUNISM

The Communists rely heavily on their body of theory. Since they regard Marxism as "scientific," they derive from his theories both their long-range plans and day-to-day action, utilizing what they believe to be strictly logical deductive methods. Both Lenin and Stalin emphasized the importance of theory when they wrote, respectively: "Without a revolutionary theory, there cannot be a revolutionary movement," and, "Only a party guided by an advanced theory can act as a vanguard in the fight." The Communists' programs of action are, in effect, applications of their theories. It is for this reason that an understanding of the theory is essential.

Communism presents an interpretation of man and his history, a reason for cause and effect, a guidepost for goals, and a justification for the means of attaining them. Its doctrines have been closely integrated to embrace all of man's activities: social, economic, political, and philosophical. For the confirmed Communist, they alone provide the satisfactory — "scientific" — explanation of man's being, the solution to his many puzzling and conflicting problems, and the opportunity for a realizable better life on earth. For the Communist, the only alternatives are to accept his doctrines or to oppose them—a middle ground is impossible.

Although rejecting all religions as "opiates" of the people, communism in the eyes of its adherents has become a substitute religion; even more, it has given them a sense of purpose, a symbol for personal dedication. While Communistic writings are voluminous and complex, they are all built upon a series of basic concepts which might be called the creed of communism. The first is the concept that all life is material in a state of constant change; hence, there is no immortal soul and no God. The only moral code is that which serves the cause of communism. The second is the belief that all history is the result of the laws of economic determinism which were discovered by Marx; the basic conflict has always been and continues to be the struggle between social classes. The third concept is that capitalism is an instrument of oppression and the primary source of opposition which must be destroyed, together with the State which of necessity supports it. Destruction can

only be brought about by violent revolutionary methods because the ruling class will never relinquish its autocratic power voluntarily. Therefore, such methods are essential and acceptable for the liberation of the oppressed classes by the vanguard which is, of course, the Communist Party, considered in a collective sense. In the minds of the Communists it follows logically that true communism can only be realized in the world when all opposition has been eliminated everywhere.

The Marxist Philosophy

The theory of communism is built on the philosophical teachings of Marx which have three primary features. The first is Dialectical Materialism which, simply stated, is a theory of reality, a philosophical explanation of the universe and man. While borrowing heavily from the thinking of the German philosopher Hegel, Marx substituted materialism for Hegel's idealism, and attempted to demonstrate that the universe and man originated from material forces in a state of constant motion. Therefore, to Marx, matter was all-important, mind was of secondary value, and consequently the soul, immortality, and God could not exist. He explained development as the result of the action of opposing forces. The first force was called the "thesis;" the second force, the "antithesis;" and the result of their opposing action, the "synthesis." The "synthesis" became a new "thesis" and the whole process repeated itself *ad infinitum*. The historical application of this theory of reality was most ingenious. For their "thesis," the Marxists took the point of view that primitive society was classless, with tribal ownership of property. The "antithesis" was class society, with capitalism as its most extreme form. The "synthesis," of course, was true communism which would combine all the advantages of man's progress with the idyllic simplicity of primitive society.

In addition to his theories of reality and development, Marx set forth three fundamental principles which he called the "unity of opposites," the "negation of the negation," and the change of quantity into quality. While abstruse if not absurd, these principles have been applied most ingeniously. The first justifies the combination of oppression and freedom within a country in the

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sense that the enemies of communism are oppressed while its adherents are free to enjoy its benefits. The second justifies Communist warfare against the capitalistic state because it produces freedom for the masses. The third proposes that the transformation of one thing into another is qualitative and extreme; therefore, a violent revolution is required to change society from capitalism to communism. Reform is purely a quantitative matter and no fundamental change ever occurs.

The historical application of Marxist dialectical materialism also involved the division of society into classes and an explanation of history on the basis of class struggle. By its very nature, this struggle was identified as the means for the eventual and inevitable transformation of society. Interestingly enough, Marx never took the trouble to define his term, "class."

The second feature of the philosophy of Marx is his doctrine of the economic processes, including production and distribution. Two aspects of this doctrine are his labor theory of value and his theory of surplus value. While not only inaccurate but also false, his theory is that the value of commodities is a result solely of labor and, further, that profit represents nothing more than unpaid labor. In essence, this economic doctrine is a theory of increasing exploitation of labor with the lot of the workers becoming progressively worse until they inevitably rise in revolt. In applying this doctrine, the Communists regard the economic processes as the base for the entire social structure of capitalism, including government and law, science, religion, art, and philosophy. The arena of the class struggle is the economic base. Since the theory suggests that the economic processes of capitalism must inevitably be destroyed, it follows logically, in the minds of the Communists, that the balance of the social structure must also be destroyed because it would no longer have a foundation upon which to rest.

The third feature of Marx's teachings is his theory of the State and of the revolutionary process. Since he believed the apparatus of the State to be nothing more than "a machine for the oppression of one class by another," he was convinced that it would "wither away" when the true Communist society came into being. However, according to his concept of the revolutionary process,

this transformation of human society was not to be accomplished in one step, but rather in several. In the first, the bourgeoisie would assume power; in the second, the proletariat would take control. This second, transitional period he labeled the "Dictatorship of the Proletariat," during which time the State would be continued, but as an arm of the masses. Only later, at some future time which was never defined, would all semblance of the State disappear and the true Communist society emerge based upon the philosophy: "from each according to his ability, to each according to his needs." It is this theory of the State and of the revolutionary process which has been particularly subjected to interpretation and manipulation by Communist leaders who followed Marx.

Communism and Socialism

Any discussion of communism must also include socialism which was already a well-known term in the time of Marx. While space does not permit a detailed consideration of socialism as a system of thought and a course of social action, four points regarding it should be mentioned. First, socialism is revolutionary by its very nature because it seeks a basic change in social institutions by a number of methods. This question of method is one point of difference between present day Socialists and Communists. Second, there are many kinds of socialism, of which Marxist socialism or communism is only one. Third, as a social philosophy, socialism includes doctrines which are not only economic in nature but also political, educational, cultural, and sociological. Fourth, to the Communists, socialism is a means, not an end—a tool with which to build a world Communist society. This Communist viewpoint that socialism is a lower phase of communism is one reason why some scholars conclude that any movement toward socialism will ultimately redound to the advantage of communism.

The Development of the Theory

The total body of Communist theory which has evolved during the past 100 years is the product of the thinking and the writings of 4 men: Karl Marx, Frederick Engels, Vladimir Lenin, and

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Joseph Stalin. Marx has been described as the "originator" of modern communism, contributing its basic concepts. Called the "collaborator," Engels worked closely with Marx to systematize these basic concepts; his contributions included organizational ability and aggressive leadership. Lenin and Stalin made practical application of the Marxist theories to the social conditions of their own times.

Communist historians regard Lenin as the "developer." Enlarging upon the theory of the dictatorship of the proletariat, he was able to apply it successfully in Russia. Since he believed that the proletariat was not as yet capable of administering the State, he advanced the theory of the Communist Party as the core and "the vanguard of the proletariat, the general staff of the revolution." Interestingly enough, he did not conceive of the party as proletarian by nature; in fact, many of its leaders have been and are intellectuals and of middle-class origin. Nonetheless, the party "expresses the interests of the proletariat." Lenin expanded upon the theory of imperialism as the final stage of capitalistic development. He also enlarged upon the strategy and tactics of world revolution and played a major part in the organization of the Third International. In effect, he restated the Marxist philosophy in order to apply it more effectively to the Russian State.

Stalin's place in Communist history is that of the "continuer." His particular contribution to theory is the concept of consolidating socialism in one country first (Soviet Russia). He converted the party into a strong administrative bureaucracy and further defined its functions within the dictatorship of the proletariat. In rejecting the "withering of the state" theory, he modified the Marxist philosophy. At the same time, he amplified it by introducing the concept of State planning and emphasizing the industrialization of the country and the collectivizing of agriculture.

Just as the theory of communism is the product of the work of these four men, so likewise is the growth and expansion of communism into its present position as a world political force attributable to their influences.

THE GROWTH OF COMMUNISM

Karl Marx

A German philosopher and economic historian who had settled in London, Karl Marx was among the more unconventional writers of the mid-19th century period. His massive work entitled *Das Kapital* includes some remarkably well documented and detailed descriptions of the objectionable working conditions in the coal mines, the mills, and the factories, as they existed in his time. Radical as it was at the time, his analysis was an outgrowth and a perversion of some of the theories of the classical economists who are today often regarded as conservative. In the light of present day economics, many of his analytical conclusions are easily proven false. Marx is also well-known for his economic interpretation of history, even though he was not the sole originator of this concept. While this concept becomes absurd by excessive application, it is important enough as an analytical approach to history to have made a contribution to the thinking of non-Marxist historians.

Marx was definitely a materialist; for him all reality was autodynamic. He viewed life as a struggle for material goods, without a question of the hereafter. For Marx, there was nothing outside, above, or below nature. All was nature in a state of eternal, dialectical flux. From his ideas emerged the doctrine of the class struggle between the oppressed who were the workers and the oppressors who were the bourgeoisie. Because he believed the false doctrine of surplus value, Marx saw wealth being concentrated more and more in the hands of the few, with the wage earners unable to buy what they themselves produced. Such a situation, according to Marxist doctrine, leads to overproduction and unemployment, to imperialism in finding new markets, and to war. On the basis of his economic interpretation of history, Marx also expected that in time the desperate proletariat would rise in violent revolution to destroy the bourgeois oppressors and create a strong dictatorship which would exist only until the last traces of the old society had disappeared. In the new society, when the workers owned the means of production and no profits were paid, the need for a dominant organized State to regulate the work-

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ers would disappear, and a new classless, stateless, and happy society would result.

To a degree, Marx was a frustrated personality rebelling against the social conditions of his age, and, originally at least, quite willing for violent death to be the fate of the "enemies" of the working class. But his false assumptions and incomplete analyses led him to false conclusions. His materialistic approach to life is rejected by all who recognize that life also has spiritual values which transcend its material benefits. Men live by bread, but not by bread alone.

The Marxist doctrines had a curious appeal, attracting a varied but limited group of followers in the beginning. Among these were some discontented intellectuals who imagined themselves in the vanguard of bold new thought; those who philosophically favored the destruction of existing institutions and moral values; those just too gullible and ignorant to see the ultimate results of a social system that promised peace and plenty in exchange for a violent revolutionary struggle; and, finally, the unscrupulous opportunists who would support any movement that promised personal rewards at the expense of society.

In connection with the "inevitable" aspect of the social and economic doctrines advanced by Marx, it should be noted that the American social structure has been a particular puzzle to the strictly Marxian analysts, because its development has confuted their basic assumptions. Despite the growth of capitalism in the United States and the appearance of huge corporations, the standard of living has steadily improved and the ownership base has remained very broad. Public acceptance of sound regulation has produced a pattern of life far different from the dire prophecies of the Marxists, although many of the present-day adherents of Marxist philosophy refuse to recognize American accomplishments.

The First International

The age of Marx has been described as a time of tumult and trouble. In 1848 Marx and Engels published the *Communist Manifesto*, marking a true turning point from the many Utopian socialist plans to a world revolutionary movement. They called upon the workers of the world to arise, since they had "nothing to lose but their chains."

Revolution broke out in Paris just a few days after this document was printed, but it, as well as its counterparts all over Europe, was short-lived. Many of the German participants fled to America and England. In the years that followed, English, French, German, Italian, and other workingmen met, and eventually in 1864 formed the International Workingmen's Association, commonly known as the First International. Marx was a leading figure in the organization. Its purpose was to unite and advance the workingmen's movements in all European countries, but it eventually fell to pieces because, for one reason, many of the participants had paramount interest in their own national objectives. In the Franco-Prussian War, with the Germans at the gates of Paris, French workers rose to create the Paris Commune, whose bloody suppression was another factor in the destruction of the First International. In 1872 the headquarters were transferred to New York, but in a short time the organization dwindled away and was finally disbanded in 1876.

The Second International

Formed in 1889, on the 100th anniversary of the French Revolution by delegates from 17 countries meeting in Paris, the Second International existed until World War I as a rather loose federation of socialist parties and a society of professional revolutionaries. It had liaison and information-gathering functions and pressure was exerted to unite divisive socialist groups. The organization is difficult to describe in general terms because of its diverse elements, ranging from Marxists to those who favored gradual reform within the framework of existing institutions. The conservative elements largely supported the Allied war cause in World War I, while the Russian members favored a policy of revolution. It was this split that led to the creation of the Third International in 1919, often known as the Comintern or Communist International.

Those parties who refused to affiliate with the Comintern, and who had left the Second International, formed their own organization. In 1923 they joined with the remnants of the Second International to establish the Labor and Socialist International (LSI). The national character of the socialist movements affiliated in its large mem-

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bership weakened its international effectiveness, and it finally ceased to exist.

The Russian Revolution

While the intellectuals debated and the revolutionaries climbed soap boxes or plotted coups in cellars, events of significance were transpiring in the land of the tzars. This vast and predominantly agricultural nation had remained in relative isolation from the economic and political changes in Europe and America, and the despotic power of the tzars had preserved aspects of the feudal system long after they had been destroyed in the rest of Europe. Marx never went to Russia nor did he envision that his doctrines would be applied there. However, the combination of many circumstances in that ultraconservative empire was to bring about a violent change.

Russia experienced an aborted revolution in 1905. Some of the surviving revolutionary leaders who were not exiled to Siberia escaped to Germany, France, and Switzerland; others stayed "underground" in European Russia. Marxist philosophies were strongest among certain groups in Germany. When the intellectual theories of Marx were combined with the practical revolutionary techniques of Lenin, in part influenced by Sun Yat-Sen, a potentially dangerous force had come into existence.

The terrible attrition of World War I, the misery of the lower classes under the cumulative oppression of the Tzarist regime, and some German conniving brought civil war to Russia again. The overthrow of the Tzar was followed first by the relatively moderate socialistic government of Kerensky, and then by the skillful seizure of power by the Bolsheviki under Lenin. Their ruthless methods, and the dissension among opposing groups, led to eventual consolidation of power in the hands of the Communist Party.

COMMUNIST RUSSIA

It should be pointed out that the resulting government in Russia, for all its lip service to Marx, has yet to create a true Marxist state. The ideal of the classless society with its common ownership, no exploitation, no government, and "from each according to his ability to each according to his need" has not materialized, nor are there any signs

that it will. From a detached intellectual point of view, true Marxism, shorn of revolution, might have a certain appeal to those who are willing to overlook practical problems of human behavior and who are unaware of the serious scientific and philosophic errors in the Marxist analysis. But Marxism in practice, as sponsored by the Soviet Union and its international following, is quite another matter, which should be ample proof of the fallacies of its theory. Even the communists will admit that Soviet Russia is in the transitional stage of Socialism, or public ownership of the means of production. But what has developed is State Capitalism with a ruthless exercise of total power by a dictatorship. Thus a doctrine, originally philosophical, has developed into a force seeking world domination.

Reshaping Society

The Russian communist leaders have been eminently practical men, willing to compromise or adapt their principles to accomplish their goal of consolidation of power. They have expertly carried out the techniques of revolution by seizure of power following infiltration. They have worked hard to reshape mankind to their type of society. Institutions and ideas that conflicted with their own have been ruthlessly destroyed. Religious activities, with their emphasis on moral values, have been stifled, except when for tactical reasons temporary concessions have seemed advisable. Those who had a stake in the older society, such as property owners, officials, and community leaders, have been liquidated or shipped to slave camps. The flexible doctrine that any means are justified by the end has opened the door to a complete new code of behavior in individual and collective life. The individual is no longer dignified as such, but subordinate to the party goals.

An important feature of the Soviet state is central planning. Some may think that the differences in planning by Communist and non-Communist states are only differences of degree, but such a conclusion is not only an oversimplification, but precludes correct analysis of the problem. The Soviets plan production, confiscate resources without compensation, and then exercise rigid control of practically all human activity to conform to the plan. Of course, a degree of central planning

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is essential for any State; for example, all countries collect data on price levels, credit needs, and similar items of national concern. A number of States have also created central banks to control money supply and price levels for the minimum purpose of stabilizing their economy. Some non-Communist countries use degrees of planning and control to meet their own needs that are less generally accepted in the United States. However, there can be no question that what we know as democracy is not compatible with the Soviet pattern of life. The Soviets have combined the doctrines of Marx, which embody Hegel's dialectics, Darwin's survival of the fittest, Ricardo's economic materialism, and the economic interpretation of history with the revolutionary techniques of Lenin and Stalin's Communist Party dictatorship. This is the antithesis of democracy.

Forwarding the Revolution

Lenin believed that the approach to revolution should vary with the type of country involved. In major nations it should begin with the ballot and then be followed by violent revolution. The client powers were to be oriented toward the Soviet Union and then finally absorbed. Dependent peoples could be taken over by directly sponsoring revolution, while backward people could be absorbed when convenient.

Once Russia had become a Soviet state, though still weak, there arose the question of what was to be the next step. This resulted in a struggle for power among the Bolshevik leaders. Trotsky was ready to go ahead with revolution on a world scale. On the other hand, having already experienced foreign intervention in the invasion of Russia and Siberia by the Allies after World War I, other Soviet leaders thought that an issue should not be made of world communism until it was strong enough to be assured of success. Stalin, although no less interested than Trotsky in world revolution, wanted to attain undisputed leadership in Russia first. Also, he firmly believed that an adaptation of Marxism was necessary to permit the establishment of a party composed of workers and peasants. In a double maneuver to strengthen the party and increase agricultural output, he instituted the bloody and ruthless collectivization of farms. Less than a century before, the peas-

ants had won their freedom from serfdom, and now they were deprived of their land again. Industry was also nationalized. A succession of police organizations enforced compliance and stamped out opposition.

Party Control

Party members, as well as passively resisting Russian citizens have faced execution and Siberian exile, for successive power struggles within the party have tolerated no division of leadership or dissent. The principle of government is the "interlocking directorate;" that is, officials wear two hats, one as heads of government ministries responsible for management and administration, and the other as members of the Praesidium where policy is formulated and control exercised. For almost 30 years Stalin was the dominant figure in both government and party; he was chairman of the Bureau of the Council of Ministers, the executive organ of the Supreme Soviet, and also General Secretary of the Communist Party, in which role he presided over meetings of the Praesidium, a powerful combination of the former Politburo and Orgburo effected by a party reorganization in 1951. Thus party control was made absolute, and party loyalty became a paramount virtue, the stepping-stone to prestige and influence.

Russian Traditionalism

Stalin was not only an improviser and believer in expediency, but a natural product of his environment. Consequently, under him, many policies and views of czarist times continued to shape the behavior of the U. S. S. R. The traditional Russian obsession with security has made "pernicious foreign influence" a major concern of both propaganda and actual policy. Many geopolitical ideas have found expression in Soviet Russia. The central cores of power are Moscow and the area east of the Urals, both of which are partly shielded by the Ukrainian food circle and by the Arctic wastes. The next lines of defense are the border S. S. R.'s: Karelo-Finnish, Byelo-Russian, Estonian, Latvian, Lithuanian, Ukrainian, Moldavian, the three Transcaucasian, the Kirghiz, Uzbek, Turkmen, Tadzhik, and Kazakh. Next comes a belt of protecting satellites: Poland, Czechoslovakia, East Germany, Hungary, East

Austria, Rumania, Bulgaria, Albania, Outer Mongolia, Sinkiang, China, and North Korea. Russia has evidenced interest in adding Finland, Yugoslavia, Greece, Turkey, and Iran to the list. The Russian policies of imperialism have found new expression in many forms. By party activity and strikes, the Soviet Communists have engineered trouble in France and Italy. By supporting Communist military forces they have attempted to further their designs in Korea, Indo-China, and Malaya. Through intrigue, espionage, subversion, and sabotage their influence has been felt in every part of the world.

While the young Bolshevik government was struggling to establish itself, it emphasized consolidation at home so long as separate Ukrainian, Byelo-Russian, Transcaucasian, and Central Asian governments followed parallel and friendly courses. However, as soon as the time was ripe, all these territories were reabsorbed into the new Soviet-pattern Russian empire. The Soviet Union has seemed quite intent on regaining all former tzarist territories. This it has largely accomplished, except for the Finnish defiance and the United States ownership of Alaska.

Another feature of Soviet policy has been to make strategic moves to further traditional Russian objectives. Among these are domination of the Baltic and Black Seas, including eventual control of their entrances, the acquisition of warm water ports on the Pacific, Atlantic, and Indian Oceans, sponsorship of the Pan-Slavic movement, and the attainment of economic self-sufficiency. To these have been added two special Soviet ideas: overcoming capitalist encirclement, and hastening the day of world revolution.

Soviet World Objectives

Soviet moves seem calculated to assure that the Soviet Union itself will survive, and beyond that point, will expand its territories as far as possible. This requires early consolidation of power in the countries of eastern Europe, leading to possible political merger into the U. S. S. R. Other possible objectives are to retard and weaken such blocks of power as may develop, particularly in western Europe and the Near East; to destroy Anglo-American friendship; to undermine French cooperation in the Anglo-American alliance; to

keep Japan, Red China, and Germany sufficiently weak until Soviet control is complete; to absorb Austria; and to establish a dominating influence over the Dardanelles, the Suez Canal, and the Middle East oil fields. Further objectives include stirring up trouble in colonies and former colonies, taking over or destroying the socialist movement, infiltrating trade unions especially in key industries, and using international organizations for propaganda purposes to strengthen the Soviet Union and its satellites. All of these plans are self-evident from the record of recent years.

Building Power at Home

Meanwhile at home the Soviet Communists are exerting strenuous efforts to industrialize the country, with heavy industry and armament coming first, and consumer goods being produced only in the amount necessary to prevent uncontrollable unrest. To meet the production goals, labor is moved by the millions to new industrial sites, to mines, and to railway and road construction areas. This at the same time disposes of dissident groups or ethnic minorities and keeps costs low, since slaves under the bayonet and whip need only minimum material rewards.

THE THIRD INTERNATIONAL

From the apparent scope of Soviet activities it should be quite evident why they are of concern to the free countries of the world. As much as we may deplore the absence of all the democratic advantages in certain parts of the world, we believe that foreign peoples must live their own lives according to the pattern they choose. We have hoped that normal social evolution in time would correct and improve conditions abroad. But when a powerful State not only aggressively disseminates economic, political, and social doctrines diametrically opposed to our own, but also develops great military power in a determination to dominate an ever increasing part of the world, the problem becomes quite different. Peaceful co-existence with a Communist Russia, just as with Nazi Germany, presupposes not only an isolationist tendency on our part, but a basic change in Soviet objectives. Since the U. S. S. R. has openly and avowedly embarked on a course of world

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conquest, there is little to indicate such a possibility.

The issue is more complicated than simply one of imperialism versus the *status quo*. Some people mistakenly believe that our quarrel is not with communism but with Russian imperialism. The two are inseparable, for a basic aim of communism is world-wide destruction of noncommunistic institutions and society through violent revolution. Such an ideological struggle involves more than military forces; it affects every aspect of life.

The Utilization of Theory

The consummate skill and cunning with which the Communists translate theory into action has been demonstrated by the use made of the Third International, or Communist International (Comintern), as an instrument for world revolution and conquest. Unlike the earlier Internationals, this later world organization has emphasized rigid party discipline. National parties are not separate sections to be loosely federated, but rather tightly integrated units of one world movement. The application of Communist principles in the Russian State has not only given reality to the theory but also has made available tremendous physical resources. With the Soviet Union as the "Fatherland," the Communist state in being, Communists the world over have had a tangible object to which to transfer their loyalties. At the same time, the Comintern has provided a means for close international ties. The resilient strength of this world-wide organization has been indicated by its ready adaptability to the sudden shifts and changes in Soviet policy. On numerous occasions the various national Communists have revealed their point of view that what is advantageous for the Soviet Union is advantageous for them. Thus it has become exceedingly clear that international Communism is an integral part of Soviet global strategy.

In the period between World Wars I and II, the Comintern openly held a series of world congresses to formulate Communist policy which was admittedly linked closely with the interests of the Soviet fatherland. However, in 1943, to allay the suspicions of the western powers, this organization was dissolved as a gesture to show that subversive activity in Capitalist countries had been suspended

while the war with Nazi Germany was in progress—but not for long. In 1947, the Communist Information Bureau (Cominform) was created as a result of an international meeting of Communists held in Poland. It was not supposed to represent a revival of the Comintern, but to serve only as a European bureau for the exchange of ideas and information, and to bring a degree of coordination to "democratic" movements. These descriptions of the Comintern and Cominform are what the Communists themselves admit publicly. Actually, this is a small part of the story, for the evidence is overwhelming that the Comintern was almost exclusively the instrument of the Soviet Union. Although this organization was officially dissolved in 1943, its principles were not: they merely assumed new modes. The Cominform, even more rigidly subservient to Moscow, appears to be an apparatus for world propaganda, subversion, and espionage.

Subsidiary Applications of Theory

As has been already indicated, communism in various countries is the tool of international communism controlled from the Soviet Union. Therefore it is a domestic enemy to be combatted by the police, the courts, and the educational system, as well as the armed forces. Few can doubt that the United States itself is under attack by unorthodox weapons that cannot be challenged alone by the battleship, the tank, or the bomber. Required is a joint effort of all social forces in the nation.

No Communist Party in any country should be confused with ordinary political parties, because it is essentially an underground movement. True, it may have a conventional organization which nominates candidates for political office, and many fellow travelers vote for these candidates and take part in the overt activities of the party. But it has been thoroughly documented in recent years, in the United States at least, that the core of the Communist Party is made up of disciplined people who operate at a conspiratorial level.

As set forth in published evidence, the Communist Party of the United States openly embraces the principles of Marxism-Leninism and advocates the overthrow and destruction of the United States Government by force and violence. Its pattern of action clearly indicates guidance and

direction of a foreign origin, as well as close association with the international Communist movement. Its methods also reflect its relationships with the Soviet Union and the Cominform. As do other Communists, those in the United States follow the "hard core" principle, which discourages large numbers and favors fewer members who are active and intensely loyal. Such party members associate themselves with worthy public causes, adopt misleading party names and alliances, encourage labor strikes and disturbances, and attempt to infiltrate into government, the armed forces, and police agencies. Espionage is a common feature, aimed at the transmission of vital information to the Soviet Union to serve Communist aims and objectives. Likewise, in its fanatical loyalty to Communist principles, the American Communist Party has a sabotage potential which can be directed against the United States at any time.

In depreciating the seriousness of the Communist menace, some Americans have expressed the opinion that Trotsky was a dangerous Bolshevik type because he wanted to hasten world revolution, but that Stalin was interested only in Russia's domestic progress, although he used drastic measures to save time. Others regard Trotsky as an idealist betrayed by the heartless tyrant Stalin. It seems clear that both of these men were dedicated to the principle of world revolution. Stalin, supposedly concerned solely with internal development, was just more patient and thorough in his plans. He built his world organization in duplicating and parallel form. There are the overt organizations whose mission is to do as much as possible to create dissent, to recruit, to propagandize. There are also the covert organizations for the collection of information, for sabotage, and for infiltration of every type of social group. All represent powerful weapons whose capabilities will not become apparent unless widespread military war breaks out, and even then will be difficult of assessment.

Obviously many of these organizations are particularly potent against a democracy such as the United States. Already the Bill of Rights has been used as a defense by those who seek to destroy its principles. Patriotic Americans sometimes propose measures to "smoke out subversives" that

as a cure may be as bad as the disease. Certainly the problem cannot be solved by strict censorship measures or disregard for the rights of citizenship or due process of law. Yet there are times when national survival may require stringent measures, applied with intelligence and discernment.

Factors in the Growth of Communism

The significant growth of world communism, especially in the post-World War II period, is the result of many factors, among them being: effective organization and organized deception, world conditions which favored the acceptance of Communist theory, and the war prestige of the Soviet Union.

As already shown, the Communists, even before the end of the war, had developed active organizations which were both international and domestic in nature. Armed with theory translated into organized action, they were prepared to move into national vacuums created by the disorganization of social structures in the aftermath of war and Nazi tyranny. The preparatory efforts of Lenin and Stalin, who had stressed the importance of organization, made possible the maximum utilization of every opportunity which presented itself. The operations of the Communist Parties of Italy and France are notable examples of the Soviet effort to influence political activities within non-Communist states. The underlying technique in all instances was carefully calculated organized deception.

The terrible destruction of World War II, its dislocation of national economies and political structures, and its imposition of widespread hardships and untold suffering on large segments of the world's population all combined to create receptive attention in many areas to the glittering Communist promises of security and a better life. The situation for many people was such that they felt they had nothing to lose, and everything to gain. As a result, some succumbed, unaware of the harsh, ugly realities of Communist rule. Not to be underestimated, therefore, is the appeal of theory as a factor in the rapid growth of the Communist movement.

Backing up the organizations and the theory have been the Soviet Armies which gained great prestige during the war. In the postwar period,

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the threat of their power, to say nothing of their proximity, has introduced the factor of uncertainty if not of intimidation, particularly for the nations of Europe. In addition, the wartime intrusion of Communists, openly devoted to their "cause," into places of leadership within underground resistance movements in Europe and elsewhere has proved to be an additional source of strength.

Since the Soviet state is a motivating force for world communism, it is appropriate to consider certain of its elements of power.

THE SOVIET STATE

Historical Background

As stated in chapter 5, the assessment of a state is more than a description of its strategic position, its resources, and its industry. It is also essential to study its people and their background. The historical beginnings of Russia are lost in vague antiquity. Geographically, Russia was considered the dividing line between the races and cultures of Europe and those of Asia. To the east in Asia were nomadic tribes of Mongolians, Tatars, and Turks. Perhaps by the sixth century A. D., Slavic tribes from northeast of the Carpathians began to move into the wooded areas of western Russia and to spread along the river valleys to the Baltic. In the ninth century the Vikings established trading posts at Novgorod in the west, and also at Kiev in the east. Both became important centers of government and culture. Satellite colonies and subject territories spread across much of European Russia. Novgorod became a merchant city in the Hanseatic League of the Middle Ages. Kiev established contact with the Eastern Roman Church at Constantinople, and thus became Christian, also receiving the Cyrillic alphabet, and many features of art and architecture. The power of Kiev declined under increasing tribal attacks from the east, and Muscovy, because of its more sheltered position in the upper Volga basin, became the new center of power.

During the 13th century all European Russia except Novgorod was conquered by the Mongols of Genghis Khan and his successors, who dominated the country for 2½ centuries and implanted many of their own racial and cultural

characteristics. During the 13th century Russia was also invaded from the west by the Swedes, who conquered Finland and attacked Novgorod, and by the Teutonic Knights, who invaded the Baltic coast and established such cities as Riga. In the 14th century Lithuania and Poland, joined through royal marriage, dominated territories from the Baltic nearly to the Black Sea. The Lithuanian part is now Byelo-Russia, and the Polish part is now the Ukraine. The princes at Moscow gradually gained power and finally won freedom from Tatar control.

At this time the Ottoman Turks overran the Middle East and took Constantinople, forcing the Eastern church to move its headquarters to Moscow. Ivan III assumed the title of Tzar (Caesar) when he married the niece of the last Byzantine emperor in 1472. Then began a period of expansion of power. Traders and settlers pushed outward all the way to the Arctic shores and in 1648 reached the Pacific. During the following 200 years there were recurrent conflicts with the Turks, Tatars, Poles, Swedes, Lithuanians, and the Teutonic Knights.

Peter the Great, in the late 17th and early 18th centuries, tried to westernize his country. Forcing out the Swedes, he moved into the Baltic states and established St. Petersburg as a great Russian seaport. Catherine the Great, 1762-96, won back the territories occupied by Poland, and her armies also pushed to the shores of the Black Sea. Later the Caucasus and Finland were conquered. Russian explorers pushed far afield, establishing settlements not only in Pacific Siberia but along the Alaskan shores. By 1812 a colony was established just north of San Francisco at Fort Ross. To some degree Russia was involved in intrigue in California and Mexico even after the Fort Ross post was sold. The problem was finally eliminated by our purchase of Alaska in 1867.

Meanwhile in Europe Russia had been at war with Napoleon, and after his famous winter retreat, the Russian armies marched across Europe to France, hailed as liberators from the tyrant. In the years that ensued, Russia held a dominant position in Central and Eastern Europe, helping to suppress revolts in Austria and Prussia, but aiding the Balkan states to win freedom from the Turks.

In the Crimean War of the 1850's the British and French joined with Turkey to block Russian expansion into the Mediterranean. Again in 1877-8, Britain, Austria, and Germany aided Turkey to prevent Russian conquest of the Dardanelles. Thwarted in this direction, Russia wrested control of the lower Amur basin from China, and just before the end of the century laid railway lines through Manchuria and took Port Arthur. Rivalries with Japan in Korea brought a war that the new trans-Siberian railway could not sustain logistically. This led to Japanese domination in southern Manchuria, Korea, and south Sakhalin.

Participation in the first world conflict came when Russia declared war in behalf of Serbia against Austria. Germany was able eventually to overrun much of White Russia, the Ukraine, and Finland; Rumania took Bessarabia; and the Turks entered the Caucasus. With internal revolution and chaos rife in Russia, the western Allies invaded Murmansk, Archangel, Far Eastern Siberia, and Baku. At the end of the war, Estonia, Latvia, Lithuania, Finland, Poland, and Bessarabia were all separated from Russia, and the Ukraine gained autonomy. Revolt in Turkestan lasted until 1923. Marshal Pilsudski in 1920 mounted fresh attacks from Poland which led to the capture of Kiev, and his forces reached Odessa. Russian counter-attacks would have destroyed Poland again but for British and French intervention.

Russia made a few overt moves, aside from re-absorbing the Ukraine, Turkestan, and Transcaucasia, until 1939 when her pact with Hitler led to the repartition of Poland, the absorption of the Baltic states, and war with Finland. German armies in 1941 began *Operation Barbarosa* that laid waste territories extending from the Arctic to the gates of Moscow and down to the Caucasus. An awakening patriotism and ruthless governmental measures supported by American lend-lease aid, enabled the Russians to turn the tide after the defense of Stalingrad, and to sweep west into central and eastern Europe. In the Far East their last minute entry into the Pacific War gave them the Kuriles, the rest of Sakhalin, and, eventual domination of the Asiatic mainland, through the Chinese Reds, all the way to Southeast Asia. The wars, hot and cold, of recent years are all too

familiar for elaboration here. So much for the bare outlines of military and political change.

Military Geography

Geographically the U. S. S. R. is a vast continental territory, sweeping some 6,000 miles east and west and 3,000 miles north and south. Much of it is a great plain that reaches from Poland across Eurasia to the Yenesei River, interrupted only by the moderate Ural Mountains. The military approaches to this territory are few. The Arctic, frozen much of the year, has few transport routes across it, and the soil is swampy and the area insect-ridden during the brief season when it is not frozen and wind-swept.

The Soviet Union is protected in most of its other approaches by high mountains and by great deserts. In the west, the Pripet Marshes are a barrier; the Balkan frontier has the Carpathians; the Caucasus ranges are very high. Formidable, too, are the great mountain belts near Iran, Afghanistan, Sinkiang, and Mongolia. The Pacific flanks are also mountainous. Mongolia and much of the Turkestan area are deserts. The principal surface approaches are in the Murmansk area, through the Baltic to Leningrad, from Germany on either side of the Pripet Marshes, or from the Black Sea. Entry is also possible, geographically speaking, along each shore of the Caspian from Iran, through the Dzungarian Gap from Sinkiang, or at the Pacific end of the country via Dairen, Vladivostok, or the Amur River.

These military approaches, of course, are not wide open, since Soviet defenses are strong and the Red Army is likely to occupy most of them before any outside force could come near. Further, mere entry into Soviet territory is not the same as occupying the seat of Soviet power. Key regions of greatest strategic significance include: (1) Moscow, (2) Leningrad, (3) the Donbas, (4) the Caucasus, (5) the Urals, (6) Tashkent, (7) the Kuzbas, (8) Lake Baikal, (9) Chita, and (10) Khabarovsk. These include the major industries and sources of raw materials. Two additional fuel sources that feed the industrial areas must be added: the Pechora and the Karaganda coal fields. The areas listed above are so widely distributed that the power of the Soviet Union, like that of a hydra-headed monster, cannot be destroyed by the occupation of any single one of them.

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What are some other strengths and weaknesses inherent in Russia's geographic position? It has already been pointed out that the country is vast, well protected on most frontiers, and with widely scattered centers of industry. The vastness is a defense, but it also poses grave problems of transport. Given advance preparations, the Soviet Union from its interior position can strike outward at adjacent Alaska and at Japan, strengthen its position in China, overrun the Middle East to reach the Indian Ocean and the Suez region, send forces throughout Scandinavia, and of course, reinforce the Balkans and move its heaviest forces westward beyond Poland to sweep Europe as far as the Pyrenees. It is hoped that NATO strength in time will minimize this likelihood. It may be that concentrated attacks upon the Soviet Union at unexpected points would create exceedingly difficult problems for the Russians in moving troops and supplies. This possibility has been anticipated by the Russians, for large forces are maintained at all points where attack might come, a policy which only a country with a large manpower pool can carry out. It has also been met by the virtually autonomous nature of many of the scattered industrial complexes. Munitions need not be moved from one end of the country to the other in all cases, for sources of supply are usually duplicated.

Economic Development

One of the significant features of economic development has been the percentage shift of industry to the area east of the Urals, although reconstruction and even new construction in the area overrun by the Germans has also been very substantial. The major installations of the steel industry are in the Donbas of the Ukraine, in the Urals, and in the Far East. Iron ore is found in each of these regions. Coal is currently mined in large quantities in the Donbas, the Kuzbas, and in the Karaganda and Pechora regions. Iron ore and coal move in opposite directions between the Urals area and the Kuzbas, equalizing rail traffic, while Karaganda coal moves both to the Urals and to the Tashkent area. Pechora coal moves both to the Leningrad and Urals areas. These bulk movements will be vastly improved in the years ahead as lagging transport facilities, both

rail and water, are improved. Already double tracking and electrification are improving many of the railways. New short-cut routes will carry coal to Tashkent from Karaganda and to the Urals from the Pechora. New dams on rivers and canals will bring water transport to supplement the railways.

The machinery and other complex industries have long been associated with western centers such as Moscow, Leningrad, and Gorky, but now new plants, plus plants moved in the face of German invasion, turn out these products at widely scattered points all the way east to the Pacific. Tanks, aircraft, and railway equipment cannot be associated with a few areas alone.

The Soviet Union is richly endowed with virtually the whole range of materials needed for modern industry and war. Perhaps the major shortcomings are in molybdenum, and to some extent tungsten, though Communist China can supply the latter. Although they have enough to meet minimum war needs, they have need of more bauxite, bismuth, cadmium, zinc, uranium, abrasives, quartz, and talc. Petroleum shortages are frequently mentioned, but refining and transport capacity are probably more immediate problems than reserves. The country is also rich in other respects. It contains perhaps one-quarter of the timber stand of the world, enormous hydroelectric potentialities, and very considerable agricultural possibilities.

Manpower

The people themselves as a resource deserve mention. They are hardy and accustomed to Spartan living. Their numbers are not definitely known, but probably exceed 200 million. Although divided into many races, they showed considerable unity in the war against Germany before it was over. The population growth is such as to provide a high military manpower potential.

Technology

The Soviet Government has been very conscious of the need for catching up with the industrial development in Western Europe and America. Through 5-year plans, and frequently, ruthless measures, rapid progress has been made in heavy industry, the basis for both further expansion and

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for munitions. Although their total capacity lags far below ours, direct statistical comparisons are dangerously misleading. Since consumer industries receive a very low priority, only enough to prevent overall lowered production or revolt, by far the greatest effort is in further expansion of heavy and munitions industries. In contrast, our own so-called minimum civilian needs even in wartime swallow up very large quantities of labor and materials.

The rugged simplicity of Soviet weapons is in striking contrast to the frequently indifferent results in consumer goods. Basic research and technical progress are given every encouragement, and have resulted in such outstanding achievements as some of the world's best tanks, artillery pieces, and jet fighter aircraft. Their emphasis on submarines is of special interest to the United States Navy. Their achievement in atomic weapons has been reached by much more than highly skilled espionage; it represents technical skill and organized industrial effort. They have found a number of sources of uranium and are now carrying on a major atomic effort in several parts of their vast domain.

Perhaps their two major industrial weaknesses are an inadequate transport system and the pressure that would be felt in the oil industry during a sustained all-out war.

Natural Resources

Food supply has long been a matter of concern for the Soviet government. In the past the country was chiefly agricultural, and it still is in considerable degree, despite the strenuous efforts to industrialize. The key area agriculturally is a long belt of steppe land reaching across the Ukraine and out east of the Volga. Although much of it has the rich Chernozem type black soil, rainfall is scanty and uncertain. This limited and unreliable ability to produce food for a rapidly expanding population has serious implications. Even if new areas were brought under cultivation, less than 10 percent of the total land in Russia is arable, and much of this is marginal. Conquest of eastern Europe therefore represents an important strengthening of the food position. The Soviets have worked hard to develop new cold-resistant fast-maturing crops to expand pro-

duction into the subarctic. The principal crops are wheat, rye, barley, potatoes, and sugar beets. Flax is raised in considerable quantities, and increased production of cotton in Turkestan, and near the Black and Caspian Seas, is bringing self-sufficiency. Meat has been in short supply for many years.

The Soviet Union may well be the richest country in the world in mineral resources. Not all of it has been thoroughly prospected, but vast resources of petroleum, coal, iron, manganese, chromium, magnesium, aluminum, gold, platinum, potash, and phosphate have already been found. There are very considerable amounts of copper, nickel, lead, zinc, graphite, mica, asbestos, fluor-spar, quartz crystals, sulphur, and some titanium, tungsten, molybdenum, tin, and corundum. Cobalt, cadmium, and vanadium may be available as byproducts from ores known to exist in Russia. Where a few of these materials are in short supply for industry, the satellites make up most deficiencies. Molybdenum comes from East Germany, antimony from Czechoslovakia and China, tungsten from China, and mercury for a time came from Yugoslavia. It is harder to assess the actual position in uranium production, but in addition to the old pitchblende mines in the Czechoslovakia-East Germany area, which have been thoroughly exploited, there are additional deposits in Poland and Bulgaria. More may be available in Manchuria, and it is rumored in several public reports that vast amounts can be exploited in western Tibet. Within the Soviet Union there are known uranium deposits at Ukhta in northern Russia, in the Caucasus, southeastern Turkestan, the Altai Mountains, Tannu Tuva, and near Lake Baikal. Undoubtedly, exploration has revealed more. Their chief need for mineral exploitation is more engineers, more production and refining equipment, and better railway transport.

Soviet oil production has not kept pace fully with potential needs, but there are multiple sources under exploitation. The Caucasus area still leads in production, centering at Baku, Maikop, and Grosny. The trans-Volga and Emba River fields are being expanded. Other smaller fields are in the Gergana Valley of Turkestan, at Nebit Dag east of the Caspian, in the Kama River Valley, on Northern Sakhalin, and in Kamchatka. Still

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other newer fields are in the Pechora, the Yenesei, and Maya Valleys, and the Tamir Peninsula. The Lvov fields in former Poland are now within the Soviet Union. In addition, satellite Rumania has the Ploesti fields. Production is conceivably only one-tenth that of the United States, but consumption by civilian motor vehicles and railways in the Soviet Union is negligible compared to ours.

The Russians have made considerable improvements in electric power production. The greatest dam in Europe before the war was the 900,000 kilowatts-capacity Dnepr plant, comparable to Hoover Dam in power output. Since the war it has been restored, and a whole series of dams are either completed or projected along the Don and Volga. Potentially, there are large numbers of additional sites. Hydroelectric power is also developed in the Kola Peninsula, the Caucasus, and in southeastern Turkestan. Today output may be about one quarter that of the United States.

Sociological Characteristics

What manner of people have the Russians become? The question is difficult to answer in a few words. Representing a mixture of many cultures, they seem in many ways mystical, fond of philosophizing, perhaps too willing to shrug off misfortune, but able to endure discomfort and inconvenience. Because of ignorance and poverty, only strong methods have been able to change the masses in their habitual ways. The people as a whole have never lived in a western democratic society, and their present government is certainly not concerned with human rights or individual dignity. Although this is not meant to be an indictment of the Russian people, there is now a question of whether or not the people themselves, in their own society, may not be changing for the worse by our standards. The Russian nobility, prosperous farmers, and business classes of the past were killed or driven from the country. The peasants, used to a simple and hardy life, bound by a love for their soil, have been uprooted by the millions to go into industry or to collective farms. The years of revolution, war, famine, and repression have affected family life and individual outlook. The present generation has known nothing else; only the old people remember an earlier life. The Soviet government has tried in this generation to

reshape attitudes and behavior, using any means regardless of the cost to individuals. It has speeded modern improvements and corrected some former shortcomings, but only at a terrible price in human suffering and damage to the finer sensibilities of the people. The Soviet totalitarian state has not only brought planning to the economy, but police terror, spying, and regulation into every aspect of life. The social and political consequences of communism are just as great and as serious as the economic.

Communist minorities in the early days of revolution manipulated themselves into power and in a conspiratorial manner have ruthlessly maintained their hold. Division of authority is not tolerated, and when rivals have appeared, they have been purged by standards so extreme that their families and associates, regardless of individual guilt, have also faced execution or imprisonment. Terror is the weapon used. There is no voice other than the voice of the Party, whether it be in the press, the school, or the political forum. The detailed regulation of life with millions of informers makes anticommunist intrigue exceedingly difficult. Children are praised for testifying against their parents. Education and politics become the ritualistic repetition of Party dogmas, with deviation a major sin. Yet despite a generation of re-education and suppression, there are still stresses in Soviet society. Minorities to some degree still have Nationalist aspirations. Normal human feelings cannot be so suppressed that some do not rebel at cruelty. The years of sacrifice, always with the promise of a better future, have not brought an easier life to the masses, instead a new privileged class, the Party members, has arisen. Only a few others are also favored: scientists, artists, and military leaders. The top leaders seem to combine a very real devotion to the Party with an apparently considerable degree of cynicism about some of the outward symbols used. In any event, extremes of privilege are very great, ranging according to rank within the Party, the military, and down through the intelligentsia to ordinary workers and peasants, finally reaching the "untouchables" of Soviet society, those out of favor with the Party and the slave laborers. Nobody knows how many laborers are in penal servitude, but the number may be twenty or thirty mil-

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lion, representing ordinary criminals, political minorities, the indiscreet, kulaks and petty bourgeoisie, or just people unfortunate enough to be within reach when more labor was required.

The new generation takes this society for granted. Children old enough to go to school join the Young Pioneers, and if found worthy, are then graduated with suitable ritual to the Kom-somols. In time, by rigid selection, a few join the elite Communist Party. Its numbers, kept to hard core strength by constant self-examination, are subjected to rigid tests and tasks in order to increase their usefulness to the Party.

Political Institutions

A facade of legal government, a written constitution, and even elections exist, but it is the Party that rules through the Central Committee and the Party Presidium. It may be that there is freedom of expression and debate within the Party Presidium, but it is also likely that, in considerable degree, while Stalin was dictator, the members waited for his nod. It is also possible that if some got illusions of grandeur, Stalin played them off against each other, or they suddenly died and enjoyed elaborate state funerals.

The Party leaders live in country villas in the suburbs of Moscow, and ride to the Kremlin in limousines with police escort; but they also work very long hours. During Stalin's regime, late night conferences were customary. It is not yet possible to assess the consequences of the political realignment which followed Stalin's death. However, there seems to be no reason for anticipating major changes in fundamental policy or in the basic organizational structure of the Party or the Government.

Evolutionary Prospects

As has been pointed out, a better standard of living for the masses has been sacrificed to capital expansion and military strength. The Red Army, largest in the world, represents abstractly a counter force to the Communist Party. But precautionary measures, undertaken to prevent this eventuality, have been intensified, especially following the great purges of 1937 that uncovered treachery, imaginary or real, to Stalin. Every military unit

now includes a political officer and, in addition, there are secret informers throughout the ranks that watch for any dissidence. Also the security forces, under the MVD, have their own elite military units designed to deal with insurrection.

It cannot be emphasized too strongly that those are most optimistic who hope for internal reform in the Soviet Union which will change its world outlook. Although there may be some guerrilla bands, some dissident elements, and undoubtedly a host of unhappy citizens, the odds are against any upset short of major war and upheaval. Party control of all propaganda, education, and social activity, even including the Orthodox Church, makes the odds very great indeed.

As has been suggested earlier, we do not have just a Soviet problem, one of ambitious State albeit with a different philosophy. We have a world Communist movement which draws men of many races and many classes into a world struggle for domination, and which receives strength and support from the Soviet homeland. The people of some countries have been won over more easily, perhaps, because by comparison Soviet domination seemed to represent an improved way of life. The Communists have also learned to take the legitimate grievance, set up a coalition or popular front, and then after infiltration of key posts to unmask their complete power and win control of the new government.

Soviet Armed Forces

The Red Army is the most powerful land force in the world. Its strength is usually quoted as 175 divisions, not including powerful satellite and security forces. Increasingly, the heavy arms production of the Soviet Union is being reflected in higher firepower and more armor and vehicles for this army. Amenities for troops are kept at a minimum. Under combat conditions they largely live off the land, and advance in every kind of vehicle, mechanically and animal powered. The haphazard aspects of their military behavior are not necessarily weaknesses: some are strengths, for they are free from the high logistics costs that we bear. Their willingness to take casualties makes them formidable adversaries. If a minefield blocks the way, hostages, labor forces, or their own troops simply march through and detonate

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the mines to allow more combat troops to pass. Although large numbers defected or were demoralized in the earlier stages of the German onslaught, extreme repressive measures, plus patriotism, plus personal indifference to death, created a powerful force that swept across Europe.

The Red Air Force has specialized in tactical air support, and has long been known for its good quality fighters. The Korean War demonstrated that the MIG-15 jet fighter was one of the finest interceptors in the world. Creation of a strategic air force has been suggested by the copies of United States B-29's that have been seen in increasing numbers by foreign observers. This development, which probably includes more modern types, takes time, but fits logically with their presumed atomic capabilities.

The Red Navy in the past has been largely a coastal defense force scattered among the several widely separated coasts of the Soviet Union. However, it is no mean force, for its submarine strength is the greatest in the world, and although reports are scanty, the same German technical knowledge in this field has been available to them as to us. The Soviet Navy's performance is largely unknown, since its exploits in World War II were limited, but there have been frequently reported stories of new surface vessel construction that reflect Soviet interest in building an effective fleet.

A chief difference between these Red forces and our own is their use of political officers and also of

large para-military security forces. Unlike our doctrine, every Soviet military unit not only has a military commander but a political officer who can influence a commander's decision by making him accountable to the Party. The political officer has additional duties in insuring loyalty and in carrying out an intensive indoctrination program at all levels. The security forces are so organized as virtually to guarantee that the Red Army itself cannot rise against the government. These security forces also have major responsibilities for guarding the frontiers against anything other than major attack, and also for administering the slave labor camps with their estimated twenty million victims.

In summation, the armed forces of the Soviet Union and the closely integrated satellite forces collectively represent the greatest military power in being in the world. They are famous for their artillery, their tanks, their rockets, and their fighter planes. They are politically oriented to a fanatical degree. They are hardened by their normal living conditions and by the most rigorous training. However, they are not invincible, nor is their political training a perfect shield, if the record of World War II gives any guide for the future. With full recognition of their strengths, the naval officer should study them with a view toward possible exploitation of their weaknesses, both in conventional military warfare and in those areas where intelligence can also aid so greatly: the economic, the political, and the psychological.

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CHAPTER 9

THE INTELLIGENCE CYCLE: COLLECTION

Intelligence as activity is embodied in the steps or phases of a perpetual cycle consisting of collection, processing, and dissemination kept in motion and continually reactivated by use on the part of strategic planners and operational commanders. Any item of collected information becomes intelligence through processing and reaches its potential consumer through dissemination.

A cycle which comprises these functions is not peculiar to intelligence; the steps are common to any activity or industry which produces a finished product from raw materials. In the automotive industry, for example, the process of manufacture begins with the acquisition of raw materials, the ores from which the necessary metals are made. The metals are then fashioned into the component parts of engine, chassis, and body, which are assembled into a finished product, an automobile. The next step puts the product in the hands of distributors or dealers who sell it to the ultimate user, the individual motorist. The phases of such an industrial cycle, procurement, manufacture, distribution and sales are analogous to those of all intelligence activity. First, information must be collected; second, this information must be subjected to certain evaluative processes by which it becomes *intelligence*; and third, the intelligence must be put in the hands of potential users. Finally, its use, either in planning or in operations, will uncover needs for additional information which will reactivate the cycle.

Let us relate the operation of the intelligence cycle to the commander and his mission. In preliminary staff planning, the commander's needs and responsibilities in respect to intelligence will require answers to the following questions:

1. Is my information on the enemy and the area of operations complete, accurate, and timely?
2. What collecting agencies or units do I have available for filling in the gaps in my information?
3. What is the correct interpretation of this information in the light of my mission?

4. To which of my subordinates or superiors will certain items of intelligence be useful?

In supplying the answers to the commander's questions, the supporting duties and functions of his intelligence officer are clearly prescribed as they relate to the three steps of the cycle, for collection, processing, and dissemination are indicated. The matter of use requires more explanation.

It has been stated above that use reactivates the cycle. Returning to our industrial analogy, we find the user, the man who bought the car, in the same position as the commander who "bought" the intelligence. The owner of the car reports that its performance in general is quite satisfactory, but that improvement in driving comfort would be effected with the addition of foam rubber seat cushions. Satisfied owners are essential to sales, so the company acts on the complaint by procuring additional raw materials, in this case foam rubber, and later models of the car have better seat cushions. Thus user experience results in a better product.

Suppose now that the commander in the midst of his planning finds that his information on Blue Beach may not be completely up-to-date because of enemy activity in that particular area. Have beach defenses been improved? A collection task arises and his question can be answered best by amphibious reconnaissance of the beach. The report of the amphibious patrol will then be evaluated and the new intelligence considered in the commander's plan. The cycle was reactivated by the need for additional information in the planning stage of the operation. Likewise, the operation itself will cause the reactivation of the cycle when in retrospect it is realized that information was incomplete on the range of a certain type of mortar used by the enemy. The capabilities of this mortar must be reassessed in the light of combat experience: a job for his intelligence officer. Again the experience of the user results in a better product, which in this case is intelligence of value to the commander in making sound military decisions.

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The steps of the intelligence cycle do not always follow in the logical sequence of collection, processing, and dissemination, although this order is normal procedure in the flow of raw information from producer to consumer. Circumstances may influence the sequence; certain information requires no processing, since it is finished intelligence at the time of collection. This would be true in the case of a single indisputable fact required by a user. Information required by a user can be supplied on many occasions from the files of ONI without the need for the assignment of an additional collection task to a field unit.

The individual steps in the cycle likewise do not represent treatment by different intelligence activities at distinctly different times. The same activity may be collector, evaluator, and disseminator of a certain item of information. Collecting agencies themselves normally subject the information collected to a certain degree of processing, and those who determine the final interpretation of an item of information are often best qualified to determine its potential user. The cycle is flexible, therefore, in its application to specific subjects and intelligence tasks.

Collection, processing, and dissemination and the work of the intelligence officer in each will be discussed more fully in the three chapters which follow.

REQUIREMENTS IN COLLECTION

Information for intelligence comprises documents, facts, and observations which throw light on any of the varied aspects of a subject under study. In *form*, information may consist of written articles or reports, messages, oral presentations or briefings, maps, photographs, graphic visual aids, and physical objects. In *nature*, information may be general or specific; detailed or fragmentary; true or false. Only when this raw undigested accumulation of material is subjected to the processes leading to final interpretation does it become intelligence to be disseminated to appropriate users.

There are four basic requirements in the collection of information for intelligence: (1) **GUIDANCE**, the direction of the collection effort by means of collection plans at all levels of command; (2) **COVERAGE**, the availability of suitable collecting

activities to fulfill the tasks imposed by the collection plan; (3) **REPORTING**, the form and means of forwarding information from the collecting activity to the processing agency; (4) **RECORDING**, making information readily available for present and future processing by proper cataloging, filing, and indexing.

Guidance

Collection requires specific guidance and control to make it efficient and valuable. Collectors must know what information is needed, and how soon it is needed, in order to expend their efforts effectively. Since collection of information for intelligence is a responsibility of a naval commander, it is from him that direction of the collection effort must come. The commander's function in this respect will be more fully discussed in chapter 12, *Intelligence Staff Procedures*. The guidance of collection throughout the naval establishment is effected through certain basic requirements set forth at the highest command level by the Chief of Naval Operations. They are expressed in broad terms for the general guidance of all the Navy's collecting agencies and activities and constitute a basic collection plan from which are derived the collection plans of subordinate commands. The Director of Naval Intelligence, for example, as CNO's Intelligence Officer, bases his collection plan upon the requirements listed by CNO, but DNI expresses them in much more detail and assigns specific collection tasks to the agencies and activities which can best obtain the required information. The field activities, such as the Operating Forces, the Attaché System, and the Naval District and River Commands, formulate their own collection plans, based in turn on the requirements of DNI, but again expressing in detail the specific items that can be obtained through the exploitation of sources peculiar or particularly available to each. Thus the general intelligence requirements become more itemized and specific as they are incorporated into the collection plans of lower echelons of command. Some intelligence tasks are long-range and continuing, others are initiated by immediate needs. The collector must be aware of the purpose, nature, and urgency of these tasks, and he must work within the frame-

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work of an organized plan in accordance with local conditions.

Collection directives are subject to such periodic revision as may be demanded by the world situation and the needs of the Navy. Emphasis will vary, interest will rise and wane, and objectives will differ in various parts of the world. Intelligence producing units, such as a geographic desk in the Office of Naval Intelligence, should have the closest possible contact with the field activity which is best qualified to collect the particular kind of information required for sound estimates or careful planning. The relations between collector and processor should always be as intimate as possible. Each report's value should be appraised and the reporting officer notified. Much welcome guidance can be given by suggestions through personal conferences, official inspections at stated intervals, and official evaluations and commentaries of field reports. Praise for industrious collection and good reporting are mutually rewarding for both collectors and processors.

Coverage

Coverage is achieved when the collecting agency, through conscientious exploitation of all sources of information, fulfils its assigned mission. Thorough coverage depends upon a carefully formulated collection plan, one which completely realizes the collecting potential of the area or target in question. Through the collection plan, potential sources for information of significance are most likely to be discovered and exploited; thus, it may be possible to anticipate and fulfil requirements for particular data. In connection with coverage, the utilization of operational collection units will be discussed in chapters 12 and 13.

Collection Agencies

As was noted in the previous sections on the organization of Naval Intelligence, the responsibility for the collection of all types of information for intelligence required within the Naval establishment rests with the Chief of Naval Operations. Under him, the Director of Naval Intelligence, as head of the Naval Intelligence organization, is responsible for the exploitation of all sources in the collection of information of naval interest, guided by such pertinent policies, pro-

cedures, and objectives as are set forth by the National Security Council. The broad scope of naval interest has been presented in the first chapter, and needs no further elaboration. Any information or intelligence that might support the Navy in carrying out the missions assigned to it or to its component parts, including naval aviation, amphibious forces, and the Marine Corps, is considered to be of naval interest.

The collecting activities available to the Director of Naval Intelligence are (1) the Office of Naval Intelligence, the "home office"; (2) the field activities consisting of the Operating Forces, the Naval Attaché System, Naval District and River Commands, including Sea Frontiers; and (3) the naval sections of intelligence activities sponsored jointly by Navy with other military services.

The Collector, Ashore and Afloat

Every person in the Navy is a potential collector of information of value to intelligence. A seaman on liberty in foreign or United States ports, a lieutenant unexpectedly invited aboard a foreign naval vessel, a welder in a naval shipyard, or a clerk in the office of a District Intelligence Officer, may be in position to supply a missing bit of information. Just as the intelligence required by staff planners differs from that required by subordinate commanders only in scope, point of view, and level of employment, so do collectors of information differ only in the orbit of their movement, their background of education and experience, and their position in the naval establishment. The collector, like the newspaper reporter, is concerned with the five W's and the H: who, what, when, where, why, and how, but he is more than an inquiring reporter, for he must be city editor and editorial writer as well, combining the discrimination of a city editor in determining what is "fit to print" with the editorial writer's perspective in interpreting events of the contemporary scene.

In collection activities, the intelligence officer must have the personal qualities possessed by the successful reporter. It is difficult to give a relative order of importance to these qualities, for their significance will be determined by the aspects of the collection task, and they will vary with assignments. Answers come from questions, so

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first of all, the intelligence officer as a collector must have an inquiring mind, an insatiable intellectual curiosity about the world in which he lives. In order to give direction to these qualities, he must have a thorough grasp of the object, nature, and scope of the intelligence operations in which he is engaged. In this respect intelligence is knowledge—knowledge gained by the intelligence officer through study and experience. The better his background of information is on a given subject, the more valuable and discriminating will be his effort in collecting additional information. He must be thoroughly familiar with his agency's existing file of information so that he will not waste time in collecting what is already available. It is on the gaps of information that he should expend time and energy. He must ever be an avid student, with a discerning awareness of the significance of what he sees, hears, and reads.

In addition to mental alertness, the intelligence officer must have physical energy. He cannot sit at a desk and expect information to come to him. Collecting normally requires a certain amount of "leg-work": things to see and people to interview. Here the qualities of initiative, tact, and resourcefulness are paramount. If a source of information dries up, replacement must be found; if efforts in one direction are futile, leads must be discovered and pursued in other directions with perseverance and patience.

Emotional stability is yet another quality desirable in a good intelligence collector. The business of tracking down information may be tedious and unexciting; the collector may meet with rebuffs and closed doors. He must be able to cope with these frustrations and devise ways to overcome them, subduing any momentary pique that initial difficulties might engender. Moreover, his ability to judge facts objectively must not be impaired by personal attitudes.

Sometimes the collector in the field will receive spot requests for information which to him appear to be insignificant and purposeless, devoid of background and meaning. In such cases he must comply without questioning the reason for the request. Normally, the collector will be informed of the purpose, but sometimes urgency or communications security will not permit thorough briefing, and message requests preclude lengthy

explanations. To someone in the intelligence organization, this bit of information is of vital importance, and the collector must seek to obtain it with the same zeal he would use in performing intelligence tasks which seem to have more meaning.

Intelligence agencies do not wish to stifle individual characteristics, for interplay of personalities in an intelligence organization is highly desirable, but the qualifications discussed above are basic. Some are innate, others can be acquired. It is the collector's responsibility to strive for the ideal through self-examination and improvement.

The Office of Naval Intelligence

The organizational structure of the Office of Naval Intelligence was presented in chapter 2. It is the "home office" into which all information reports flow and where they are processed and disseminated for use. Here collection programs are established which are translated into positive collection guidance for field activities. ONI also provides the liaison with other government departments and agencies which insures a full fund of knowledge and eliminates duplication of collection efforts. Although ONI fits into the intelligence cycle most appropriately in the processing phase, it must not be overlooked that the research activity carried on by analysts is in a large sense a collection activity as well, for evaluation requires the patient gathering of a mass of related materials.

OPERATIONAL COLLECTION OF INTELLIGENCE

Articles 0504 and 0506 of Navy Regulations state that "a commander shall maintain an effective intelligence organization and keep himself informed of the political and military aspects of the national and international situation" and that "a commander shall keep his immediate superior appropriately informed of intelligence information that may be of value."

These two articles make each commander responsible for the collection, processing, and dissemination of intelligence within his own command and the dissemination of intelligence to higher echelons. Without good intelligence it would be impossible to conduct a successful naval operation, unless there was an overwhelming supe-

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riority of forces, and even then much time, money, and many lives would be wasted unnecessarily.

The commander must be assured of continuing reliable intelligence as to the disposition, strength, composition, and movement of enemy forces, as well as intelligence on the weather and other factors of the area of operations. He must use every means at his disposal to gain information of the enemy forces opposing him, and of enemy forces in other areas, which may affect the preparation and execution of his plans. A failure to exploit every source of information may deny important information of enemy dispositions, movements and operations, and consequently make impossible a decisive exploitation of enemy weaknesses.

The difficulties involved in obtaining adequate information and in arriving at reliable conclusions are many. These difficulties are due principally to the enemy's efforts to foil attempts made to gain information. In concealing his movements he will make use of camouflage, darkness, and weather. He will resort to any tactical measures that offer a reasonable chance of obtaining secrecy or surprise. He will enforce both strict censorship and communication security measures to prevent leaks of information. He may distribute false information and institute other measures to deceive the collecting agencies of the opposition. He will sometimes adopt a course of action that may appear illogical. Thus in planning and operations, the designs of the enemy are more or less unknown factors.

Combat operations during wartime constitute one of the primary sources of information about the enemy. The observations and experience of personnel involved, when properly evaluated, are immensely valuable in furnishing intelligence concerning enemy strength, disposition, materiel, tactics and capabilities, to say nothing of valuable target information and geographical detail.

Collection by the Fleet

The Fleet has at its disposal certain units that are ideally constituted to provide the means of collecting certain types of information. It is impossible to list them in order of importance, for in certain conditions and at a particular time each may be of prime importance in a vital collection

task. The discussion here will be of a more general nature, since details of such employment of operational units will be presented in chapter 13 against a background of certain naval operations of World War II.

Collection by Surface Vessels

In both peace and war the surface vessels of the Navy are collectors of intelligence. Most nations send their vessels on cruises in peacetime, not only for training personnel and testing equipment, but also to collect a great variety of intelligence. Reports can be made on such subjects as weather observations, channel soundings, sonar conditions, port and harbor installations, radio and radar transmissions, and many items of political, economic, and sociological interest. It will also be possible to enhance the value of these reports with appropriate photographs. Collection by ship's personnel underway or in foreign ports requires vision in guidance and diligence on the part of the collectors.

In actual war conditions, the emphasis in collection may shift to more current information of a tactical nature for which there is immediate need. There will always be gaps in our basic encyclopedic intelligence which must be filled as opportunity presents itself. For example, naval operations in World War II took place in parts of the world far from the beaten track, and the operating forces not only had to find the enemy and observe the weather, but also had to take many soundings and do other jobs that unfortunately had not been done before the war. Even so, operations could not be wholly successful without the encyclopedic type of information as a frame of reference within which to study current enemy behavior.

One of the tasks performed by surface vessels in collection is hydrographic survey. This information is needed by the Hydrographic Office to revise and improve the navigation charts used by merchant and naval ships alike. In many parts of the world navigation charts date back into the last century, and only the most obvious corrections have been made since. Subsequently, islands have been found to be mislocated and soundings inadequate over reefs and other obstructions. There are geological changes, sometimes of great violence, that require resurvey.

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In World War II, existing charts were found to be so inadequate that additional survey ships were commissioned and given elaborate photographic and printing equipment to prepare new charts in the field for direct dissemination to the operating forces. The nature of hydrographic needs has changed with naval warfare itself, putting new demands on collectors. For example, amphibious intelligence poses information requirements in surf and swell conditions, tides and currents. Successful submarine operations require not only data on depths and currents, but also on temperature and salinity.

Electronic Reconnaissance

The appearance of radar in World War II and the subsequent advancement in the development of electronic devices have provided our fleets and forces with a new and important capability in the collection of information by means of electronic reconnaissance. Much of this capability rests with communications intelligence which will be discussed in a later section, but reconnaissance by designated ships and aircraft of the Fleet, within range of enemy radar or radio installations, provides a means for the collection of data concerning their identification and location, as well as transmission frequencies, characteristics, and employment.

The devices and techniques of such collection require technical explanations beyond the scope of this volume. Obviously, this is a job for electronics experts, but the intelligence officer who finds himself associated with electronic collection activities can be of great assistance in on the spot guidance and preliminary interpretation of the collection effort. In an age when science and technology are constantly changing concepts of warfare, electronics represents a field of which the intelligence officer can ill afford to be ignorant.

Collection by Submarines

Submarines are especially suited for collection of information through reconnaissance because they can remain concealed and unsupported for long periods in enemy waters. Thus they can reconnoiter successfully and return safely and secretly in situations where other collection agencies could either not obtain the desired information

at all, or could only do so at great cost and with the risk of giving the enemy an indication of intentions.

One limitation of the submarine in reconnaissance work is the necessity of relatively deep water. In order to remain submerged, and therefore concealed, the submarine must confine its movements to waters of ten or preferably twenty fathoms. Close approach to the area to be reconnoitered may thus be limited by bottom topography. In planning any submarine reconnaissance, the depth of water must be given special consideration.

Submarines are capable of several different types of reconnaissance:

1. Periscope reconnaissance.

(a) Visual. Best results are obtained from the shortest possible range. Binocular viewing by two or more observers at a time is recommended; for this purpose, an auxiliary viewer may be used, which projects the periscope field on a ground-glass screen. It is also advisable to use a voice recorder at the time of observations, and to make sketches of significant details.

(b) Photographic. Makes a complete record of observations; allows photo-interpretation if a photo-reconnaissance strip can be made. All major amphibious operations in the Pacific during World War II were preceded by submarine photographic reconnaissance.

2. Radar or radio reconnaissance. Obtains information of the locations and characteristics of enemy transmitters on shore, ships or aircraft. Special search receivers and associated equipment are required. The intelligence officer should brief submarine personnel in advance on the known locations and characteristics of all enemy transmitters in the reconnaissance area.

3. Sonar reconnaissance.

(a) Listening. With the use of special equipment, this type of reconnaissance can provide sonar information, similar to that of radar and radio. It not only contributes to scientific and technical intelligence, but may be of value in future undersea operations against the enemy.

(b) Echo-ranging. Obtains information of the locations of minefields and other underwater obstacles. Special sonar equipment is required. The intelligence officer should provide charts of known or suspected mines and other obstacles

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and should recommend search tracks, course lines, and radar contact points. Minefield reconnaissance by submarine is hazardous, and requires a high degree of training.

4. Meteorological reconnaissance. With specialized personnel and equipment, submarines can gather weather data in enemy waters. They may, for example, remain on station for long periods as mobile weather stations.

5. Hydrographic reconnaissance. Submarines are excellent collectors of data on thermal gradients and landmarks such as fixes, profiles, and orientation points. They are also able to determine current and tide conditions and verify depths through soundings.

Periscope photography, discussed above, is particularly promising as a reconnaissance technique. Its chief advantage is that it supplies a complete and permanent record, which in certain cases lends itself admirably to photo-interpretation.

The subjects of periscope observation, both visual and photographic, are mainly enemy shipping, harbors, coastal areas, and beaches. Periscope photography of such subjects is preferable to aerial photography, especially for the production of amphibious intelligence. It often reveals areas and details, such as profiles and orientation points, not normally obtained from aerial views. It is able to penetrate camouflage, which is usually designed to give protection from aerial observation. The side view which it affords is better for certain purposes than a vertical view, for example, in determining the gradient of a beach. Furthermore, certain objects notably offshore obstacles, boat lanes, beach exits, and natural or man-made means of cover and concealment, are more readily and plainly visible to submarines than from the air. Periscope photography can also be useful for verifying the results of aerial photography.

A disadvantage of individual periscope photographs is their narrow angle of view—only eight degrees at high power, which is generally used. Because of the scale desired—not less than 1:5000, preferably 1:2500—the range cannot exceed a mile or two with certain types of cameras. For various reasons, including bottom topography, so close an approach is not always possible. Cameras of greater focal length would of course permit

photographs of suitable scale to be taken at longer range.

In spite of these disadvantages, individual periscope photographs can provide information of great intelligence value. Those of the following types present data of particular intelligence value:

1. Broadside shots of naval and merchant ships, including the ship's entire length, supplemented by close-ups showing the names, numbers, and unusual features. In wartime, pre-attack and post-attack photographs of enemy shipping are useful for damage assessment and verification of sinkings.
2. Port and harbor facilities, such as docks, cranes, warehouses, and shipways.
3. Landmarks and orientation points.

By taking a series of overlapping photographs, a submarine can make a so-called "strip" or "panorama". If the true bearing of the periscope is changed between photographs, the result is a *sweep panorama*, which cannot be used for photo-interpretation but can be grouped to make composites for general information. Sweep panoramas can be taken in a short time, in areas of limited sea-room, and without much preparation. Thus they are often used, especially for coverage of harbors, coastal areas and beaches, when conditions are not favorable for stereo-photography.

Photo-reconnaissance strips, also called "underway panoramas", are made by taking a series of overlapping photographs (the extent of overlap being approximately 60 percent), with the periscope trained to the same true bearing while the submarine holds a constant course. Objects appearing in two successive photographs can be viewed and interpreted in stereo.

This is the most useful type of submarine photography for intelligence purposes. However, it requires planning and preparation, takes time (which may expose the submarine to discovery by the enemy), and requires sufficient sea-room for the submarine to follow a continuous track while making photographs.

Amphibious Patrols

When certain essential information is lacking or it becomes necessary to confirm and amplify information received from other sources, amphibious patrols can be employed to gather hydro-

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graphic data, report meteorological conditions, examine beaches and terrain, locate enemy installations, determine enemy strength, capture enemy prisoners, and make demonstrations to effect deceptions. As a general rule, amphibious patrols confine their activities to the covert acquisition of information and fight only in self-defense.

Amphibious patrol personnel must be specially selected and trained to do their job in all types of terrain, such as mountain, jungle, and arctic. The elements and principles of scouting and patrolling must be sufficiently instilled in them to become instinctive. The aggressive type of action involved, combined with the strain of maintaining a high degree of security, necessitates exceptional physical condition and agility. All individuals must have confidence in their ability to handle themselves with ease in water.

Additional training is required in the technique of entering hostile territory from the sea, in recognizing unusual characteristics of terrain and hydrography, and in special communications methods and procedures. All patrol personnel must be able to handle small boats on the sea at night and to estimate such factors as current, wind, speed, and direction without difficulty. Accurate recognition, sketching, map and aerial photograph reading, and the ability to write objective factual reports are also essential in the successful operations of an amphibious patrol.

Underwater Demolition Teams

During World War II one of the most useful sources of information in the hours just prior to amphibious landings was the result of the labors of the underwater demolition teams (UDT's). In early Pacific operations they proved their effectiveness in carrying out their assigned mission of beach clearance and they were able to operate successfully even in daylight provided there was adequate fire support.

After the Marianas operation, when an intelligence section was added to the staff of ComUDTsPac, the mission of the UDTs was enlarged to include reconnaissance as well as demolition. Two intelligence officers were assigned by ComPhibPac to the staff of ComUDTsPac and close liaison was established. This activity expanded considerably as operations grew larger and more complex, and

by the end of the war, several intelligence officers were on duty with ComUDTsPac. All were given special instructions to prepare them for UDT intelligence work, and some were assigned to teams for specific operations.

UDTs can obtain detailed beach information on topography, soils and trafficability, location and nature of obstacles, hydrographic data, location and type of mines in beach approaches, the nature of the shore line, defenses, visible exits, and prominent landmarks along the beaches that can be used for guiding in landing craft. If the teams are launched in rubber boats from submarines at night, they may be able to obtain considerable hydrographic data without disclosing their presence. If launched from submarine or surface vessels in daylight, fire support may be necessary.

Reconnoitering enemy shores, along with demolition of underwater obstacles, are important contributions of the Navy's underwater demolition teams, and the success of any amphibious operation may well hinge upon them.

THE NAVAL ATTACHÉ SYSTEM

Naval officers on duty in foreign posts provide a large part of the information needed by the Navy for planning purposes in war and peace. Therefore it is desirable to deal in some detail with the organization and function of the Naval Attaché system.

The paramount duty of Naval Attachés is that of intelligence collection, in the performance of which they are an integral part of Naval Intelligence and are under the cognizance of the Director of Naval Intelligence. At the same time, they are under the military command of the minister or ambassador who heads the diplomatic mission to which they are assigned. Although the attaché is not recognized under the law as a Foreign Service Officer, he carries a diplomatic passport and has diplomatic immunity. Thus, he is a member of the official staff of the diplomatic mission of the United States in the country to which that mission is accredited and is the direct representative of the Navy Department in that mission.

The naval attaché in general defers to the wishes of the ambassador or minister. Normally the chief of the mission will not be concerned with the attaché's reports of classified technical and

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tactical naval information, particularly if they are of no international political significance. The attaché's reports are forwarded directly to CNO (DNI), and if desired, copies are furnished to the chief of mission.

The controlling factor in the assignment of attachés is the procurement of information of interest to the Navy Department. The assignment, as assistant attachés, of officers who have specialized in various technical or professional subjects is usually limited to those stations which offer special opportunities to procure technical information. Consultation with the State Department in the assignment of attachés is limited, in general, to assuring that the officer selected for the post is *persona grata* to the State Department, which then takes the necessary steps to ascertain that the selection is acceptable to the country to which the diplomatic mission is accredited. When attachés and assistant attachés are accredited to more than one country, only countries whose mutual political relationships are good are included in the same group.

The number and stations of naval attachés vary according to current requirements. In the capitals of major powers, such as London and Paris, a large complement is usually maintained, while in Latin America, a single attaché may be accredited to several adjoining countries. Primary responsibility is usually the country of the attaché's residence; he will have secondary responsibilities as required by naval interest or the current situation.

The duties of the naval attaché may be described only in general terms, for the methods and techniques to be followed depend almost entirely on the good judgment and tactful discretion of the attaché himself. The opportunities and situations which confront an attaché vary so greatly in different parts of the world that uniform procedures cannot be prescribed. He must be constantly on the alert for every kind of information of possible naval interest, using all his imagination, ingenuity, and resourcefulness to uncover it and all his knowledge of the country and of general naval subjects to interpret it. He cannot neglect an item simply because he has not received a specific request for it and has no labeled folder for it in his file.

Naval attachés deal directly with the Admiralty or Ministry of Marine, and, where the military, naval, and air departments are combined, with the Ministry of Defense. Official dealings with any other ministry must be conducted through the chief of the diplomatic mission to which the attaché is assigned. Ordinarily, naval matters will be referred to the attaché by the chief of mission.

The attaché can expect little official information from a government on the real spirit which pervades its Navy, its concepts of strategy and tactics, the extent and results of maneuvers, the characteristics of its naval commanders, or the efficiency of personnel and materiel. This information can be obtained only through intimate personal and social relationships with foreign nationals, particularly foreign naval and army officers.

Outside the Iron Curtain, the attaché often has many semi and unofficial sources of information available to him. They include the naval and air departments to which he has official access; visits to ships, dockyards, and port installations; witnessing maneuvers and demonstrations as an official guest; association with industrialists, politicians, and the man in the street; the press, official publications, correspondents, and our own State Department officers. The attachés of other governments accredited to the same country are likewise valuable sources of information, and the naval attaché is at liberty to discuss with them matters of interest which he has discovered for himself. He should not, however, discuss or exchange information which has been given to him directly by the government to which he is accredited.

The attaché can often save himself much time and effort if he is aware of the collection activities of other United States government agencies. Consular reports, for example, contain carefully compiled data concerning shipping which clears for United States ports. Regular consular officers, commercial and agricultural attachés, and trade commissioners assigned to missions can provide well-documented information of importance to the naval attaché. However, when such information is reported by the naval attaché, the source should be carefully identified in order to avoid problems which arise from duplicate reporting.

Private American commercial interests abroad are always well supplied with material of value, particularly with regard to the movements and transfers of vessels, and unusual developments in the field in which they specialize. Representatives of such interest are to be found in nearly every major port in the world, and often have extensive and intimate knowledge of local conditions. In connection with their work, they observe and report on the activity of competing firms, both American and foreign, keep in touch with current political and economic trends, and maintain close and amicable relationships with official government sources. The naval attaché can profit from cordial relations with them. Although the reporting of economic intelligence is the primary mission of other United States intelligence agencies, much information of naval interest has its source in commercial and economic affairs.

A word of caution is necessary regarding direct requests made by an attaché to foreign governments for specific information. By custom, such a request carries with it the implication that corresponding data of our own will be given in exchange. The Office of Naval Intelligence, therefore, definitely prefers to acquire information on an unofficial basis, unless it specifically authorizes a direct official request. The same rules apply when the attaché requests permission to attend, or accepts invitations to witness, confidential trials and experiments. It is quite likely that the government to which the attaché is accredited will expect reciprocal privileges in return. The attaché should know, and advise the officials of the foreign power, what the attitude of the United States is with regard to the exchange of information or the extension of reciprocal privileges.

The collection activities of Naval Intelligence abroad are overt in nature. The attaché must never jeopardize his position as a member of a diplomatic mission by indiscreet activities which may bring discredit upon himself, the embassy or legation, or the reputation of his fellow countrymen resident abroad. Discretion is the key to success. The creation of good will should always be his aim. A sincere effort to become proficient in the language of the country, and constant study of the nature and customs of the people will do much to win loyal friends and expand the social

and professional circles in which he moves. If he is fortunate enough to have his family with him, he will be able to participate in community life to an even greater degree. A good attaché works at his job with unfailing courtesy, tolerance, and cooperation. He can reflect great credit upon the United States Navy, leave a lasting impression of admiration and respect, and make the work of his successor easier.

Covert Collection

The demands of security naturally give a covert flavor to intelligence collection, but by far the greater part of information can be obtained openly by the thorough exploitation of available sources. In other words, an intelligence officer rarely has to depend on people who put a price on what they know. Few such sources are very valuable, and the disadvantages of their use and the risks involved are great. The shadow world of the professional informer is beset with pitfalls for the novice, and dealing with mercenary characters even on the fringe is a dangerous practice for anyone who desires to maintain a *persona grata* status in a foreign country. Covert collection, therefore, is not within the province of officers assigned to attaché billets.

NAVAL DISTRICTS AND RIVER COMMANDS

Under the District Commandant, the District Intelligence Officer (DIO) is responsible for the collection of such information as is required for the security of naval activities within the District, as well as that which is needed by the Commander of the Sea Frontier in which the District is located. The DIO's collection tasks, therefore, are primarily concerned with counterintelligence problems involving the security of the Naval Establishment and the National Security, and with operational intelligence in support of the sea Frontier Commander. However, in consonance with existing directives and agreements among the various intelligence agencies, the district intelligence organization engages in some exploitation of selected sources of intelligence.

The collection of intelligence by Sea Frontiers in wartime is largely of an operational character. Operational needs frequently cut across arbitrary district lines extended out to sea, thus making the

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plots and logs kept by the Sea Frontier vital to effective action.

JOINT INTELLIGENCE ACTIVITIES

Collection activities can often be most efficiently carried out by the closely coordinated effort of a collection team composed of representatives of all the armed services. The Joint Intelligence Collection Agencies (JICA) groups which operated in overseas theaters during World War II were designed for this purpose. As noted in chapter 3, naval officers also serve with the intelligence committees and groups of the Joint Chiefs of Staff, where they have unusual opportunities for collection guidance. The coordination of intelligence reporting by service attachés is exemplified in the Joint Weeka reports from State Department missions all over the world which contain brief summaries on matters of interest to many government agencies.

OTHER SOURCES AND METHODS OF COLLECTION

The foregoing activities in the collecting of information are directly guided and controlled by the Navy's intelligence organization. They by no means comprise all sources available to the Navy. Data collected by other government departments or agencies is often valuable for the Navy as well. The resourceful intelligence officer has sources well-nigh inexhaustible. They await his exploitation.

The courses, methods, and techniques of the collection of information are as varied as the subjects, operating areas, and personal qualifications of the collectors. It is impossible to describe them all, but a few have been selected for special discussion as illustrative of basic principles applicable in the work of the intelligence officer as researcher, psychologist, and technician. Information gained from enemy personnel, documents, and materiel can be of special value because of its potential qualities of accuracy and timeliness. These captured sources are, of course, normally available only in time of war.

Prisoners of War

In a tactical situation, prisoner of war interrogation, better described perhaps as "examination," has as its purpose the obtaining of informa-

tion of immediate value which enemy personnel may have. The advantages of such information are conditioned by the nature of the theater of operations, the availability of other sources, and the skill with which it is developed and exploited. The essential activities involved in the exploitation of prisoners of war as sources of information are: capture, screening, conditioning, and interrogating. The preliminary evaluation and dissemination of this information by the interrogator are, of course, necessary.

The capture of enemy personnel is a function of combat forces whose personnel must be carefully persuaded it is to their advantage to capture prisoners and keep them alive. Specific instructions for handling prisoners should include: prevention of cruelty, prevention of excessive kindness, and prevention of unauthorized contact with higher ranking prisoners of war; their expeditious transport to designated interrogation specialists, with adequate advance notice; and the simultaneous delivery of personal papers and effects, which are to be taken immediately from prisoners, clearly marked as to original ownership. Any plan for the procurement of prisoners should be prescribed by the careful indoctrination of operational units and advance planning for the handling of captured enemy personnel.

In screening, each prisoner of war is given a preliminary examination in order to determine whether he is likely to have any useful information, how readily he may yield it, and which agency is most appropriate for his further processing. The selection of the appropriate agency is governed by the nature of the information possessed and the military service to which the prisoner belongs. The screening officer should, in general, avoid any discussion of subjects which are not of immediate tactical interest. When it appears that a prisoner may have information of more strategic value, special arrangements for handling are made.

The activities of conditioning and interrogating are complementary and often carried on simultaneously. The prisoner must not be permitted to become too contented with his status and he should remain fully aware, by subtle suggestion, that any favors he receives come solely from the interrogator. At all times, the normal military rank relationship should be maintained between the pris-

oner and his captors. So-called "third-degree" methods are not only forbidden by international agreement but also are ineffective and often result in a complete failure of the interrogating process.

Interrogation is the function of trained specialists whose primary objective is to ascertain whether or not the prisoner actually possesses information of value and, if he does, to obtain it. Interrogation is an excellent means of corroborating information received from other sources. For many prisoners, a short interrogation is sufficient.

The interrogating process has several prerequisites. There should be no conversation with the prisoner either before or between interrogations, except in accordance with the pre-determined plans of the interrogator. A secluded place is essential, with no audience present. No effort should be made to interfere with the work of the interrogator: he alone is best qualified to determine what the prisoner knows, how it may be obtained, and when to stop. The interrogator must be fully informed of all collateral information relevant to the prisoner and the information he is believed to have. The interrogator should promptly receive any new facts or data which may assist in the acquiring of the needed information. He should also be advised of the relative importance of items of required information and any changes in their importance. In this manner, his efforts may be better concentrated. Demonstrated confidence in the interrogator and his work can increase his effectiveness in dealing with prisoners.

The interrogator's preliminary evaluation of information provided by the prisoner of war is almost always inevitable and exceedingly helpful. The very nature of interrogation involves some determination of the correctness and accuracy of the information gained. In addition, personal impressions and reactions gained by the interrogator in his associations with a prisoner are of considerable value to subsequent processors of the information. Prior to disseminating his information, the interrogator should be satisfied that he has correctly understood the prisoner's statement and that this statement is as accurate and complete as he can get. In transmitting information, the interrogator should include, in addition to the information itself, an estimate of the extent of the prisoner's knowledge, a statement of the facility

with which it was obtained, and notification of availability for evacuation.

The ideal interrogator is both a linguist and an intelligence officer, since his activity is basically an intelligence function. Not only must he have a fluent knowledge of the prisoner's language, he must also be familiar both with the customs and background of the enemy and with the intelligence requirements of his own command. In an operational situation, especially during early stages of hostilities, this combination of attributes is always not readily obtainable. As a result, intelligence officers may be required to work closely with linguists in developing information from prisoners of war. The objective may well be to train a linguist to be an interrogator, in order that he may carry on his activities in a more independent manner. However, even when this becomes possible, there must be the closest coordination of efforts and interests, and the interrogator must be guided at all times by knowledge of what information is most urgently needed and its significance to the command. No attempt should ever be made to obtain information through an interrogator without his complete understanding of the nature, scope, and significance of the information desired. On his part, the interrogator must cooperate fully with the intelligence officer and endeavor to furnish obtained information in a form which can be most readily used.

Documents

When examined systematically by competent personnel, captured documents reveal information about an enemy. An enemy document may be any form of recorded information regarding enemy forces or areas. Enemy documents are both personal, found on prisoners or enemy dead, and official.

As sources of information, enemy documents have one unique feature—they are prepared by the enemy for his own information and guidance and are, therefore, just as clear, concise, and accurate as he can make them. He does not intend that we will ever see them. In effect, then, when we get an enemy document, the enemy voluntarily tells us all he knows about a particular subject; he will tell it again and again in the same way as often as we wish to study the subject. Information from

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documents is more authentic and reliable than that from prisoners of war because it is less biased and less representative of personal opinion.

During World War II documents were catalogued, examined, and handled so as to disclose maximum information of obvious and immediate significance to the command and to its subordinate forces for use in combat operations at hand. Further processing by rear echelons produced intelligence valuable to all commands engaged in planning future operations.

Collection by Examination of Materiel

All types of enemy equipment are studied on the battlefield as well as behind the lines by technical intelligence personnel—cannons, tanks, mortars, mines, radios, and so forth. The Navy raises sunken submarines, and refloats beached landing craft. Such ground and naval equipment sometimes may be repaired to test against our own, and thus determine its performance characteristics. The components may be examined for clues as to assembly techniques, quality of alloys, and shortages of materials. During World War II, German Tiger tanks were brought to the United States to race against our own tanks and to test-fire their guns; Soviet T34's from Korea have likewise been evaluated.

Air Technical Intelligence is chosen for discussion here as typical of the broader field. Technical and scientific intelligence dealing with new weapons is covered in chapter 14. A favorite story of Air Technical Intelligence concerns the loss of an experimental Vickers Wellesley British bomber while on trials prior to World War II. Apparently German Intelligence wanted this plane badly enough to risk war, for it was shot down by a German submarine off the British coast and salvaged for later study in Germany. The British chose an extraordinary way to let the Germans know that the fate of the plane had been discovered. They made a motion picture based on the incident called "Clouds Over Europe" and released it for showing on the continent.

The primary mission of Air Technical Intelligence is the collection of information about actual, potential, or possible enemy aircraft and related equipment. Information at first may consist of crude sketches or inferior photographs of

new planes, or reports of aircraft or components from escapees. All of this data is then related to known design trends of the aircraft of that particular foreign country. Eventually the time may come when actual components, or even a whole aircraft, are salvaged on the ground for analysis in detail. The uses of such information are both strategic and tactical. New and better performance may mean a new strategic situation in many parts of the world. Detailed analysis of turning ability, speed at different altitudes, vulnerability to damage, and weapons employed, may require modification of United States tactics. Improved foreign capabilities require counteraction by the United States armed forces both in long range plans and immediate steps.

We made constant efforts in World War II to keep abreast of technical developments in Japanese and German aircraft. In the early days of the war, the Japanese Zero and Zeke fighters proved to be maneuverable and dangerous, although they lacked protective armor. Readers of *Recognition* magazine during the war will recall the publication first of provisional silhouettes and tentative performance data, then subsequent revisions as reports improved, and finally views of captured and rebuilt planes with American markings, under test at Wright-Patterson Field. Through adroit collection, we often had photographs of prototypes considerably in advance of the time that operational models appeared in quantity. German jets, both turbine and rocket, near the end of the war represented extremely significant developments due to their high speed, and consequently they were a prime technical intelligence target. Chapter 14 describes our interest in the Peenemünde guided missiles center in Germany.

We lost aircraft to the enemy as well, and one of the stranger episodes of the war was what happened to the American B-29's that had been forced to land in Soviet territory. The fact that the Soviets could copy those "interned" aircraft and produce the type in quantity for a strategic air force was a good indication of the level of their technical intelligence and engineering achievement.

Long-range development of an air force requires consideration of many technical features that in turn depend on technical intelligence from

abroad. For example, our strategic bombers must not only have the range and carrying power we decide are necessary, but must be designed to cope with enemy interceptors, guided missiles, and anti-aircraft guns during the expected operational life of the planes. These questions of enemy defenses require detailed answers. For example, with regard to enemy interceptors, their future performance, armament, and armor must be estimated by extrapolating trends from the present. Performance includes service ceiling, rate of climb, combat radius, ability to turn, to dive, and so forth. Sometimes direct evidence on all of these matters is not available. However, it is possible to obtain much information of an indirect nature, but nonetheless useful. For example, a report of no boosters on flight controls of a particular plane implies some lack of maneuverability at speeds near Mach one, and also consequent added pilot fatigue from battling the controls. On the other hand, lack of such equipment might also mean simpler maintenance and greater availability.

PHOTOGRAPHIC INTELLIGENCE

The purpose of the following discussion is to introduce naval officers to the field of photographic intelligence, and to point out some of its inherent capabilities, limitations, and techniques. Efficient staff planning and operational estimates require close cooperation between photo-interpreters and intelligence officers, and each should be cognizant of mutually supporting collection services.

Photographic interpretation has been defined as the examination of photographic images of objects for the purpose of identifying the objects and deducing their significance. Photographic intelligence is the evaluated and analyzed information obtained through photographic interpretation.

History and Development

The United States Navy's photographic intelligence organization received its initial stimulus and help from the British, who, upon being pushed off the European continent and largely separated from ordinary information and intelligence channels, had hurriedly improvised a system of extracting desired military information from factual evidence contained in photographs taken over enemy-held territory. While photographic intelligence

had been used by both sides with some effect during World War I, it had in the interval before World War II become a lost technique. Despite the improvisation, the British soon achieved results that were spectacularly successful, and American observers were sent to England to study the techniques of the new system. Their enthusiastic reports caused the Chief of Naval Operations, in September 1941, to recommend the establishment of the Photographic Interpretation School. Perhaps the greatest initial stumbling block for the School was the inability to anticipate requirements in the new field. There were no established billets for the graduates of the School, and many commanders were inexperienced both in the employment of photo-interpreters and in recognizing the capabilities and limitations of photographic interpretation. As the value of photographic intelligence was realized and more photo-interpreters became available, photographic interpretation units were formed, either as a part of a photo group or intelligence center assigned to an area commander. By the end of World War II, graduates of the Photographic Interpretation School were operating in all theaters of war, contributing significantly to all operations.

Today the center of photographic interpretation activity for the Navy is the United States Naval Photographic Interpretation Center which functions under the Bureau of Aeronautics. This Center prepares photographic interpretation reports and studies for the Office of Naval Intelligence and for the Fleet, performs research and development work in the fields of photographic interpretation and photogrammetry, and trains photographic interpreters. Its activities include the preparation and maintenance of reference manuals, and other documents, the preparation of terrain models, and the maintenance of a library of photographic interpretation material and other pertinent data.

Capabilities of Photographic Intelligence

The extraction of useful intelligence from photographs is not a simple matter. The photographic interpreter must first know the conditions under which a photograph was taken. This information is normally recorded on aerial photographs, and includes the focal length of the camera, altitude of the plane, exposure and run

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number, mission number, organization number, date, time and zone, place, and classification. Generally, the first print of a flight shows the basic information which concerns the whole flight, and each subsequent photograph shows only information to identify the individual print within the flight. A photo-interpreter should know the capabilities of each type of aerial camera, as well as the type of photograph from which he can obtain the information desired. For this reason the photographic interpreter should be directly involved in preflight planning of an aerial reconnaissance mission.

Photographs as a source of information possess many advantages when compared to other intelligence sources. Some of the more important advantages are as follows:

1. Aerial photography can be used to collect information over areas inaccessible to ground observers.
2. The photograph represents an accurate permanent record, instantaneously made, of all the detail within the field of view of the camera.
3. The photograph is a means of transmitting an unbiased, first-hand impression to the expert most qualified to interpret it, although he may be many miles from the scene.
4. The photograph can be studied with earlier and later coverage of the same area to produce comparative intelligence.
5. Accurate dimensions of objects may be determined from photographs.
6. As a rule, photographs need not be evaluated as to course and reliability, but only as to content and significance.

Other advantages of aerial photographs are comprehensive coverage, made possible through the use of modern equipment and techniques, and the ability to provide current and timely information. Under certain conditions, it is possible to determine ship speeds, surf conditions, water depths, the nature of beach obstacles, and to make industrial analyses. Water depths, surf conditions, and beach obstacles are particularly important during the planning of amphibious operations.

Another important use of aerial photographs is in the construction or correction of charts, maps, and terrain models. Aerial mapping makes it

possible to produce accurate maps in a minimum length of time.

Aerial photography as a source of intelligence has a number of limitations which should be clearly understood. Some of these are:

1. Effective aerial photographic coverage cannot normally be accomplished during periods of bad flying weather. It is also limited by the ranges of photographic aircraft, the presence of ground mist, or cloud cover, and available light conditions.
2. Since an aerial photograph represents conditions at one particular instant of time, subsequent photos of the same area must be obtained for analysis of significant changes. This is particularly important in considering enemy build-ups of equipment and personnel, increase in defensive positions, and air capabilities.
3. The aerial photographic interpreter cannot always see the fine details of a target. For example, while the size, extent, and height of a wall may be determined from the photograph much more accurately than from ground reconnaissance, the information as to whether its stones are loose or mortared must usually rest with the ground observer. However, detail, such as grain size of beach sand, may sometimes be inferred from features visible in aerial photos.
4. The observations of the photographic interpreter are necessarily limited to areas shown on the photograph. It is quite possible that an item most important from an intelligence standpoint may occur just off the edge of available photo cover or under a patch of cloud.

Teamwork of the Intelligence Officer and the Photographic Interpreter

The Intelligence Officer and the Photographic Interpreter have mutually supporting contributions to make in the production of intelligence. While their relationships will vary from station to station, a few general principles can be established. For any target or area of intelligence interest, there usually exists a body of background intelligence, from many sources, such as documents, maps, and charts. Photographic intelli-

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gence can often confirm or deny the accuracy of such data or can amplify it whenever it relates to the physical nature of items viewed on the aerial photography. It may help to confirm the reliability of the source from which a report comes. In addition to providing verification, the aerial photographs can serve as a base on which various ground observation reports can be plotted and related to each other. Generally speaking, the photo interpreter will be able to provide precise locational data and state with reasonable assurance the presence or absence of specific features and their dimensions. He can also relate widely separated features beyond the view of any single ground observer. On the other hand, ground observation reports can provide much more detailed data for the immediate area in question.

Just as the photographic interpreter can participate in the evaluation of information from other sources, so the intelligence officer can often aid in the analysis of data derived from aerial photography. Frequently, because of his greater familiarity with all of the available intelligence regarding an area, the intelligence officer may have a more complete grasp of the significance of data derived from aerial photography as it affects existing intelligence and relates to other information. Further, data from other sources, as compiled and evaluated by the intelligence officer, may provide the photographic interpreter with clues which will lead him to a more complete analysis of the photos. By working together as a team, the intelligence officer and the photographic interpreter represent a combination of great value in intelligence activity.

Types of Aerial Photographs

Many kinds of photographs are used by the photo-interpreter in assembling intelligence data, including aerial verticals, obliques, composites, continuous strip, gun camera, and ground. Each has a specific usefulness in fulfilling the intelligence needs of various strategic and tactical organizations. In addition to recommending various types of cameras and photographic techniques, the photo-interpreter advises as to the use of special film and filter combinations under varying altitudes and light conditions. For instance, infrared film records unusual qualities of colors.

Vegetation registers a light tone in sharp contrast to non-infrared reflective objects, such as water, roads, and buildings, that record dark on the print. This aids in the detection of artificial camouflage in areas of vegetation.

Verticals

Vertical photographs are the most valuable for general use by the intelligence officer. They are taken with the optical axis of the camera in a vertical or in a near-vertical position. The scale of the photograph is equal to the quotient of focal length (in inches) over the altitude of the aircraft above the ground (in inches). It is apparent that the desired scale may be obtained by changing the focal length of the camera used or the altitude at which the pictures are taken. Errors of scale and azimuth resulting from tip and tilt, variation in relief, and optical distortions are inherent in vertical photographs; however, these errors are relatively small and can be compensated when necessary.

Obliques

Oblique aerial photographs are obtained by intentionally tilting the optical axis of the camera from the vertical. A high-oblique aerial photograph includes the horizon; a low-oblique does not. Oblique photographs are of value to photo-interpreters for such details as gun emplacements, camouflage positions, and underwater and beach obstacles. Annotated obliques are used effectively in briefing pilots and coxswains in order to approximate the views of the beach and inland landmarks as realistically as possible.

Simulated oblique photographs may be obtained by photographing terrain models and relief maps from various directions and heights.

Composites

An aerial photograph made with one camera directed vertically, and two or more cameras mounted on an angle from horizontal, is a composite. Trimetrogon photography, a form of composite, has one camera directed vertically downward and two cameras mounted at an angle of 30° from horizontal and perpendicular to the line of flight. All cameras are operated simultaneously, so that the area from horizon to horizon,

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perpendicular to the line of flight, is covered by three photographs.

Composite photographs are used principally for mapping large areas on small scale. Less ground control is required and the flight lines need not be flown as accurately as when a single lens is used. This will be more fully discussed later. The distance between flight lines can be much greater with trimetrogon photography, since a greater area is covered with each click of the shutter.

Continuous Strip Photography

Continuous strip cameras photograph a continuous strip of terrain by allowing the negative to move continuously over a fixed slit at the focal plane of the camera. The film speed is adjusted to the height and speed of the aircraft. The Sonne continuous strip camera has been modified to permit stereo coverage by using two lenses and partitioning the camera cone so that two strips are photographed side by side on the 9¼-inch negative. Parallax effects are obtained by causing the lens assembly to be rotated on a horizontal plane so that one lens is in advance of the other. Continuous strip photography is usually taken vertically although successful obliques have been taken.

Continuous strip photography is especially adapted to low altitude (approximately 200 feet) and high speed flying (300 up to 1,000 miles per hour) and permits an accurate determination of height and depth. It is well suited for detailed beach work; the scale (1:400 to 1:1,000) is such that all visible forms of minor defenses may be located and accurate data on gradient, spot depths, and heights may be calculated. Strip photography has the great advantage of "freezing" the surface of water areas, so that the bottom may be seen stereoscopically while the sea remains transparent. Photographic interpreters, with specialized training, have obtained remarkable results with strip photography in depth determination studies.

Gun Camera Photographs

Gun camera photos are widely used to record hits in aerial gunnery. In such employment they have also often proved valuable in recording new

types of aircraft, ground equipment, modifications in structure or design of aircraft, and other similar information which is extremely useful to air intelligence officers as well as to photographic interpreters. Satisfactory measurements cannot normally be made on gun cameras' photos. Interpreters use them qualitatively where possible for new leads and as supplementary aids in identification of enemy equipment.

Ground Photographs

Ground photos are commonly used by the photographic interpreter as supplementary aids in most types of interpretation. Where photos have been captured or derived in other ways, important use for them is found in identifying or analyzing structures and evaluating local terrain. Ground photos taken by our own forces after occupation of enemy territory are commonly used in comparative studies. Ground shots, when set side by side with vertical stereopairs, offer valuable cross-references and materially increase the chances of recognizing similar installations observed elsewhere on aerial photographs. Following the occupation of Japan, Kiska, Attu, and other Pacific Islands, comparative studies were made by Navy photographic interpreters and other members of the United States Strategic Bombing Survey Teams with the air or ground photographs and measurements of important installations.

Stereoscopy

One of the greatest benefits of photographic interpretation is derived from stereoscopic analysis of aerial photographs. Stereoscopy may be defined as "The science which deals with three dimensional effects and the methods by which these effects are produced." In the case of photography, three dimensional affect, or stereo-vision, is obtained by viewing two pictures of the same object or area taken from different points, the photographs being so oriented that each eye views a different picture. Aerial photographs for stereo-vision are obtained by making successive overlapping exposures. The overlapping parts of the prints may be viewed stereoscopically; two such prints are called a stereopair. Terrain features and objects which indicate vertical delineation appear in exaggerated relief when viewed stereo-

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scopically. This enables the photo-interpreter to detect camouflage, to note details of terrain, to identify and study the characteristics of aircraft, ships, and military installations, and finally, to determine the results of military action through damage assessment.

A stereopair is any two photographs or diagrams showing a common field or view, which have been taken, or represent a perspective, at approximately the same distance from the field but from slightly different positions. To see photographs stereoscopically they must be placed in the same relative positions as when they were taken. Any pair of overlapping vertical photographs taken at approximately the same elevation, and with the same focal length camera, can be viewed stereoscopically if arranged properly. Duplicate photographs cannot be viewed stereoscopically, since the objects on the photographs must have been viewed by the camera from different angles.

Vectographs and Anaglyphs

A vectograph is a print or slide in which the two images of the stereopair are superimposed with slight offset, and each image transmits light, polarized in a plane perpendicular to that of the other. The print or projection must be viewed with polarized glasses so that the plane of polarization in each corresponds to that of the image each eye is required to see.

Vectographs are difficult to prepare, hence their use in presentation of information is limited. Once prepared, however, they constitute a rapid means of presenting aerial photographs in three dimensions to persons unaccustomed to using a stereoscope or to a group of persons simultaneously. This is useful during planning in familiarizing staff officers with an unknown area and in briefing pilots, coxswains, and subordinate commanders in the field. A vectograph eliminates the need for stereopairs and stereoscopes in briefing sessions.

The polarized light principle can also be used whenever appropriate equipment is available, by projecting positive transparencies of a stereopair through a twin-barrel projector. The beams of projected light are polarized by passing through properly oriented polaroid plates, and the result-

ant composite image on the screen is used with polaroid glasses.

Anaglyphs in similar fashion present a 3-dimensional effect by overprinting 2 films, 1 red, the other blue. When viewed with special glasses or cellophane eyepieces, also 1 red and 1 blue, the resulting image appears to be 3 dimensional.

Flight Lines and Indices

A flight line is a course laid out on a map to be followed by a plane. Principal and alternate flight lines should be prepared whenever possible for each photographic mission. The final planning of the flight lines and the method of execution of the mission is the responsibility of the photographic squadron commander. Photographic interpreters are trained to perform flight planning for photo reconnaissance missions in conjunction with the squadron commander. Intelligence officers should also understand this important process, since it effects the quality and quantity of aerial photographic coverage.

There are many factors to be considered in flight planning, details of which may be found in such specialized publications as the *Photographic Interpretation Handbook* and *NWP 30*.

Whenever possible the locations of photos are plotted on a map or overlay before photographic interpretation. The usual procedure is to use an adjustable plastic template, included in the photographic interpreter's kit, which can be set to a size which represents the area covered by a photograph on the map or chart used as a base. By inspecting photo detail, a series of rectangles are drawn on the map, chart, or overlay to show the coverage of each photograph in the sortie.

When a sortie plot has not been made, the "pilot's trace," a rough plot of the flight line followed by the plane, is often valuable as an aid in locating the photographs. Detailed discussion of plotting techniques will also be found in the reference manuals cited above.

Sometimes all photos taken on a given mission are taped down hastily without trimming to form a very rough mosaic which is then photographed. This is called a photo index. In this case, photographs are usually laid so that the sortie and the number of each photograph can be easily read from the resultant mosaic.

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Scale Determination

Scale may be defined as the relation between the distance on the photograph and the actual distance on the ground. As in map reading, scale may be expressed as a representative fraction (1:10,000 where 1 inch on the photo equals 10,000 inches on ground), words, and figures (3 inches equal 1 mile), or by means of a graphic scale. The scale of an aerial photograph can be determined in the following ways: (1) Focal length and lens height; (2) by comparison with a map; (3) by comparison with the ground. The formulas and procedures used in each method are described in detail in the *Photographic Interpreter's Handbook*.

Mosaics

A mosaic is an assembly of several aerial photographs into one composite picture. There are two general types of mosaics, controlled and uncontrolled.

Controlled mosaics are prepared by adjusting vertical aerial photographs to the plotted positions of ground control points. Ground control points are the result of earlier surveys or are established by one of several methods from controls already in existence. These ground control points are identified on photographs and plotted on a mounting board to the desired scale of the final mosaic. The photographs to be used are then enlarged or reduced to this scale by means of precise rectifying projectors which are also adjusted to correct as much as possible for the existing tip and tilt in the photographs. When these control points on the photographs are placed directly over the corresponding points on the mounting board, the photographs are in true relation to each other. The controlled mosaic is accurate enough in scale and direction for most practical purposes. An annotated controlled mosaic may be useful as a replacement for maps of an area.

Uncontrolled mosaics include all of those not prepared to the rather rigid specifications indicated above. The simplest form of uncontrolled mosaic is that produced by merely putting photographs together by matching detail along their borders. More carefully prepared uncontrolled mosaics are cut and fitted to get the best match of detail, using only the center section of each photograph. Sometimes a measure of control is intro-

duced by plotting in advance certain widely spaced control points and making an attempt to meet this control by stretching and adjusting the photographs. Uncontrolled mosaics give a good pictorial representation of the ground and may be used for rough measurements. However, they will contain distortion and errors in scale. Uncontrolled mosaics cannot usually be gridded for military purposes.

A special type of uncontrolled mosaic is the "strip mosaic" which consists of a single run of aerial photographs matched and mounted to show the flight path.

Terrain Models and Relief Maps

Terrain models and relief maps are three-dimensional representations of a portion of the earth's surface in miniature. Terrain models refer to plaster, rubber, or papier mache topographic models, which show relief but do not show detailed map information. Relief maps, on the other hand, are basically maps which show relief in third dimension. The primary purpose of three-dimensional terrain models and relief maps is the visual presentation of available information on terrain in a simple and easily understood form. Terrain models and relief maps afford military personnel an opportunity for prolonged and intensive study from any height or direction thereby permitting the observer to recognize terrain and beach features more readily.

During World War II, plaster and rubber terrain models were prepared for almost all major offensive operations, some being made in limited quantities in forward areas, others being produced in small quantities in this country and flown to task forces prior to the assault. There were six general categories of models according to their use: strategic planning, tactical planning, assault landing, assault, airborne landing, and aerial target. The scale of the models, of course, varies with the extent of the area depicted and the needs of the users.

The demand for topographic models frequently exceeded production capacity, since laborious procedures were employed and most finishing operations were accomplished by tedious handwork. Furthermore, the quality of early models was generally poor, because basic map information was

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inaccurate or incomplete and in many instances model production equipment did not permit accurate editing. Model media also left much to be desired. Plaster and papier mache were commonly used in forward areas throughout most of the war. Sponge-rubber models were not developed until 1944 and these had to be hand-painted and could only be manufactured successfully in rear echelon locations.

The elimination of hand painting was first made possible through the development of plastic relief maps, a process invented by John J. Braund of the United States Coast and Geodetic Survey. This technique made use of normal printing processes to print standard flat map information onto thermoplastic sheets for subsequent forming by heat and vacuum into a negative mold. The Braund Process marked the first major step toward quantity reproduction of models and, with certain refinements and modifications, it is the most advanced today.

In Korea, plastic relief maps were effectively used for operational planning, briefing and as a map supplement for all commands. (For detailed information concerning the construction of plastic relief maps and plastic photomaps refer to Army Map Service Bulletin No. 29, dated April 1950).

COMMUNICATIONS INTELLIGENCE

Just as photographic intelligence represents the operations of collection, processing, and dissemination in a technical field, the steps of the intelligence cycle are similarly applicable to the operations of communications intelligence. It too, is a cycle within a cycle.

Only the most cursory treatment of communications intelligence can be given here, for though it is known that major powers engage in this activity, information as to how much or how little our country learns through these methods and the exact details of how we do our work might involve a serious breach of security. There are, however, several techniques that are generally in use and which can be described. These are grouped under cryptanalysis and traffic analysis.

Cryptanalysis

Cryptanalysis refers to the breaking of the ciphers or codes used by other countries. A cipher

is a rearrangement and/or a substitution of individual letters in a message. A code uses special words or numbers to represent other words or even whole sentences. Ciphers are frequently prepared by machines and translated back into clear language by the same means.

American accomplishments in cryptanalysis during World War I were made public knowledge in 1931 in a book by Herbert O. Yardley, *The American Black Chamber*. During World War I, Yardley was the head of the MI-8 in the War Department, which was composed of five subsections; code and cipher compilation, communications, shorthand, secret ink laboratory, and code and cipher solution. He soon found out that all the great powers had well established bureaus of a similar nature staffed by competent professionals. Successes in this field certainly rank far above the exploits of Mata Hari for effectiveness if not for romantic interest. Fletcher Pratt in his book *Secret and Urgent* describes several notable cryptographic triumphs during World War I.

The German cruiser, *Magdeburg*, raiding along the Russian coast one night early in the war, ran hard aground in a fog. When the mists cleared the following morning, the Russian Fleet was standing toward the helpless vessel. In this emergency the commander of the *Magdeburg* ordered one of his officers to take the code books in a small boat as far from the stranded ship as possible and throw them into deep water. In the resultant confusion the officer was pitched over the side by a large swell, faithfully clutching the lead-bound code books in his arms. A Russian order for decent burial of all German dead was rewarded with one of the most important finds of the war, for a dredge drew up the officer's body with the code books still in his arms. The books were promptly forwarded to London where they provided the solution for all German naval codes.

This discovery had most important effects on the German naval effort and the course of the war. German raiding forces were intercepted and destroyed, and traps set by the German Navy for British forces boomeranged. In the Battle of Jutland the German Fleet escaped annihilation only because the British Admiralty was unable to contact Admiral Jellicoe due to excess volume of radio traffic.

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Another notable British cipher coup began by chance aboard a small monitor in the Mediterranean. It had been noted that the German radio station at Nauen followed its regular evening broadcast of the daily communique with a series of signals sent so rapidly that separate sounds could not even be distinguished. It resembled static more than anything else. Allied code officers had reached the conclusion that these signals were merely a method of testing the apparatus. One very hot and quiet day wardroom officers aboard the British monitor ran out of musical selections for their portable phonograph. They decided to play a record of Nauen's lightning gibberish for amusement. The officer who put the record on forgot to rewind the phonograph, and as the instrument slowed to a stop, the high-pitched screech became a rational series of code groups. They were a series of messages from the German High Command to General Von Lettow-Vorbeck, commanding in German East Africa, and most interesting of all they were in an old German Army cipher which the British had long held. In East Africa the Germans had been unable to obtain the new cipher, so messages to them were concealed by transmission at 5 or 6 times normal speed.

As Fletcher Pratt points out, the Germans were not without their own intelligence successes in World War I. They are credited with working a resounding military hoax on the Russians in the Black Sea as a sequel to their success in solving Russian naval ciphers. The German cruisers, *Goben* and *Breslau*, based at Constantinople, waited until the Russian Black Sea fleet put to sea, then slipped in between the Russians and their base. In naval code, as though coming from home, they wirelessly ordered to the Russian admiral to proceed with all speed to Trebizond at the far eastern end of the Black Sea. When the duped Russians returned from their fruitless chase, they found that the two lone German ships had raided their shore establishments and broken up their coastal merchant shipping.

Yardley's book describes the great effectiveness of our cryptanalysis in reading Japanese messages at the time of the Washington armament conference. His office turned out over 5,000 decipherments and translations during those meetings. Some writers believe that the Japanese denounce-

ment of the naval treaties was directly linked with Yardley's disclosures years later.

How and to what extent any American agency reentered cryptanalysis after Yardley's work was discontinued in 1929, has not been disclosed. The public knows that something was done prior to Pearl Harbor because of the references made on 4 November 1945, by Representative Gearhart (Congressional Record, November 6, 1945, pp. 10606-11). On 15 November 1945, came the full disclosure to the joint congressional committee of some 700 messages dating back to 2 December 1940. One of the most controversial features of the Pearl Harbor investigation involved the purported "winds messages" which were said to contain the signals for war.

These references to cryptanalysis, though brief, should suggest the sensitive nature of the subject and the need for the intelligence officer wherever stationed to be aware of the implications of activities which concern codes and ciphers.

Traffic Analysis

Traffic analysis is a second major type of activity related to communications that does not even require cryptanalysis to be useful, although code breaking eases this work. It requires a knowledge of how messages are put together, how they are routed, and what kinds of organizations use radio communications. The task is to reconstruct the radio networks of the enemy, and to determine the features of their operations. It includes the solution of call sign and routing systems, analysis of the components of message externals, interpretation of radio procedure, and the use of the various cryptographic systems passed; that is, everything about communications except the cryptanalysis itself, although the two activities are mutually supporting.

When traffic analysis is systematically developed, it may be possible to learn the call signals of enemy stations, the frequencies and times of transmissions, the physical location of stations, routing codes, and so forth. From this information a principal end product is order of battle data. Radio networks have definite and detailed patterns that give clues to the organizations they serve. They may include individual links between two points, groups working as an entity under a single

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control, or nets with common operating characteristics and overall direction. Stations may use a single frequency or a range to fit atmospheric conditions. They may switch for security reasons or when regular frequencies have been jammed. Call signs may be fixed or be changed on some secret basis. Times of transmission may also be varied on some irregular, secret basis.

Clues to messages and operations may come from procedure signals and miscellaneous chatter among operators. Such chatter may give information on cryptographic systems used. Japanese stations in World War II received advance notice of some of our carrier strikes when our pilots turned on transmitters to test them prior to take off. Occasionally, due to unusual atmospheric conditions, messages on frequencies not intended to go very far are bounced great distances and received by enemy ears. Sometimes encrypted messages are refused by an addressee, and the same message is repeated under another system giving many important leads. Messages have certain externals that can convey much valuable information. These may include serial numbers, group counts, date time markings, routing to action and information addresses, and precedence indicators.

The location of transmitters, if not otherwise known, may be determined by direction finding, using several receivers and triangulation. Reconstructing a net may come from the call signals, the schedules, the frequencies, the routings and routines, the cryptographic system used, the chatter and names of operators. The information obtained is plotted in diagramatic form and in tables until meaningful patterns emerge.

Volume of traffic and direction of flow may indicate what stations represent higher headquarters or certain command relationships. Changes in volume of messages may show that military operations are underway or about to begin. For example, it appears that before the Pearl Harbor attack, important Japanese fleet units kept radio silence, an immediate clue that they did not want their activities identified. Since changes in volume of traffic can disclose so much, nearly all countries now pad their traffic to maintain an even volume and hide this kind of vital information. Dummy nets may continue to operate to hide the moves of real forces under radio silence. Consequently the

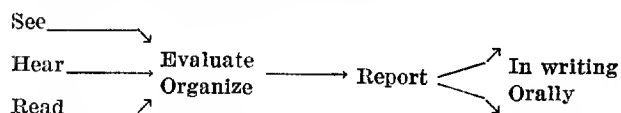
intelligence officer must always be on guard lest the obvious not be the real.

Thus it is apparent that the value of traffic analysis is great, for it not only can be a source of much information to us, but also points out the need for protective measures to insure our own communications security.

REPORTING

Thus far in our discussion of collection we have described *guidance*, the direction of the collection effort, and *coverage*, the fulfillment of missions by collecting agencies or units. Now we come to *reporting*, the means by which information reaches its consumer. Without prompt and accurate reporting a collection effort is without value.

Graphically, the reporting by an intelligence officer can be represented thus:



We have here in essence a reporting cycle which embraces all phases of the Intelligence Cycle: *collection* through the eye and ear; *processing* by a preliminary interpretation of the information and its organization into logical presentation; and *dissemination* through the act of reporting, either written or oral. The intelligence officer must therefore be able to present the information collected in the manner that will best serve the user. Words, written or spoken, are weapons to be used with skill.

Written Reports

Written reports can be classified into three types: (1) *periodic*, those required at regular intervals or on designated dates on a continuing basis; (2) *spot*, those made in reply to a specific request; and (3) *voluntary*, those submitted through the collector's initiative.

Typical of periodic reports is the joint WEEKA, prepared at virtually all United States foreign posts by the representatives of the Departments of State, Army, Navy, and Air Force. It is an analysis of the significant local events of the week under review. The naval attaché is primarily responsible for items of naval interest which are briefly presented with appropriate comment.

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The intelligence officers of many operational commands prepare succinct summaries of items of interest for periodic dissemination to all units within that command. The items may be evaluations or interpretations of current events or merely accurate information to correct ill-founded scuttle-butt.

Spot reports are direct answers to specific questions. What is the depth of water alongside Pier 5 in Atlantis Harbor? What are the political sympathies of Admiral Ivanovitch? Has the repair of the damaged crane in the Gesundheit Shipyard been completed? Specific requests usually have a "due date" and replies by messages are often requested.

Voluntary reports should make up the bulk of a collector's reporting. We have shown in previous chapters the broad scope of subjects of naval interest. An alert collector's reporting responsibilities never cease, and conscientious effort in insuring completeness of information will often eliminate the necessity for specific requests to supply the missing data.

Form and Speed

The primary considerations in the reporting of information are *form* and *speed*. The Navy has adopted a standard information report form which insures completeness and provides uniformity for rapid and efficient processing. The nature and urgency of the information will determine in what form it should be forwarded and the means to be used. Particularly vital information should be submitted by telecommunications, while matters of less immediate concern are forwarded by mail in accordance with security regulations affecting their transmission. Lacking specific directives, the intelligence officer must use his best judgment.

Report Writing

The ABC's of good report writing are *accuracy*, *brevity*, and *clarity*. Precision in the use of words is essential for accuracy. To write: *The vehicle went into the water* would be a most inaccurate description if the true circumstance was: *The jeep slid into the Danube*. Brevity is perhaps the most difficult to achieve, for it is always a problem to decide what is essential or nonessential for the

consumer's needs. However, one should not write: "The be-ribboned sea-dog mounted the gangway of the famous fighting ship and partook of a noon-day repast together with the efficient officers who control the intricate operations of this modern masterpiece of naval engineering" when the situation can be simply described by: "Admiral Burke lunched with the ship's officers on board the *Forrestal*."

Clarity is achieved by a simple, direct writing style, and a logical organization of report content. The standard Navy information report format consists of: (1) a succinct summary of the information; (2) the main body of the report; (3) the comments of the originator.

A summary or brief is required for all reports of more than one page. Normally, it should not be longer than a few sentences or one-fourth page. Its purpose is to enable all who read it to determine its significance at first glance. Therefore it should be more than a mere outline of the paragraph titles of the report. It should contain the main facts, a succinct epitome or abstract of the report's contents. Thus a carefully written brief serves as a timesaver for those who initiate the processing of the report's information. It is an essential aid to proper dissemination, for its potential users will be clearly indicated.

The main body of the report should be presented with section or paragraph titles and subtitles. The material should be factual and the writer must strive for complete objectivity. Here again brevity is desirable but never at the expense of necessary detail.

At the close of the report, on a separate page, the reporting officer should present his personal comments. It may sometimes be advisable to elaborate on the reliability of the source or to submit a brief discussion of the pertinence of certain facts as seen by the collector in the field. Such comment will be most helpful to subsequent evaluators of the information. Here the reporting officer can be *subjective* and editorialize to his heart's content. However, he should still be concise. Often the forwarding officer in a chain of command will also desire to add comment.

We can summarize our discussion of reporting by setting forth a few guiding principles:

Each report should be on a *single* subject.

- Give careful attention to the introductory summary.
- Organize facts and figures in logical sequence.
- Photographs, sketches, and appropriate graphics will always save words and enhance the value of the report.
- Be objective in the main body; be subjective in comment.
- Never include questions or requests. Such matters are subjects for separate letters.
- Edit the report before submission; reread, reorganize, rewrite.
- Make every report represent a best effort.

Oral Reporting

Intelligence officers in operational billets will be frequently called upon for oral presentations or briefings to commanders, staffs, and personnel of operating units. The effectiveness of such briefings depends on the officer's ability as a speaker and his ingenuity in the use of visual aids. Careful organization is again the key to success. A good briefing has an adequate introduction, smooth transition in moving from point to point, and a clear, forceful conclusion. Naturalness of delivery, unity, coherence, and emphasis will achieve the desired result. Ability will come with practice, and the intelligence officer should constantly strive for self-improvement in this important function.

Observation and Reporting in the Field

The intelligence officer serving as an attaché or in other billets abroad will frequently be in position to observe things of inestimable value. The full significance of many observations will, of course, be apparent only to the highly trained technician. A good intelligence officer must be quick to realize his own observation and reporting shortcomings in technical fields and request expert assistance whenever possible. There are, however, certain fields in which he must acquire observation techniques in the interests of accurate reporting. We shall discuss two of them here: ships and aircraft, both of which are of prime intelligence significance all over the world.

Reporting on Merchant Ships

Although thousands of merchant ships ply the oceans, far outnumbering naval vessels, the aver-

age naval officer is seldom equipped to recognize, identify, and accurately describe them. Yet their recognition is of key importance not only in distinguishing between friend and foe but also in accurate assessment of the enemy's logistic capability.

Typical among current merchant ships recognition manuals is CINCPAC RIG-1, which is an outgrowth of JMST used in World War II. Now out of print though still frequently available is ONI 209. Very useful, too, is Talbot-Booth's *Merchant Ships* annual.

Recognition is of two types. The first is a general overall impression, used primarily in quick operational identification. The second is a more detailed analysis, feature by feature, made possible only by opportunity for prolonged observation. The latter is the most desirable, since ships present a great variety of characteristics and are therefore hard to identify quickly.

There are several stages of ship recognition. As ships come over the horizon, their sequence of masts, kingposts, cranes, and funnels can be noted from bow to stern. Next can be noted the general hull form, whether flush-deck or in various combinations with and without raised forecastle, bridge, and poop sections. At medium range more detail can be noted: the shape of the bow and stern, the funnel size and shape, position of masts and kingposts, and often clues to length and tonnage. At close range the length of forecastle, bridge, and poop can be ascertained and also the position of deckhouses, winchhouses, ventilating cowls, lifeboats, and many other details. The particulars of Navy merchant ship coding, largely adapted from Talbot-Booth, are covered in official manuals.

How is the size of a ship to be judged? Apart from checking in a reference manual, there is no absolute measure, for visual impressions are affected by the color of sky, the kind of weather, and the altitude of the observer. However, an estimation of length may be possible from the number of lifeboats or the ratio of length to the height of the navigation bridge above the waterline. Whether the ship is light or laden will possibly influence identification of the shape of bow and stern. Speed estimates are also important. They depend upon a knowledge of the shapes and posi-

tions of waves made by different kinds of bows, and familiarity with varieties of ships' wakes. The kind and continuity of smoke will give clues to the type of fuel burned by a ship. Mistakes are easy to make. A three-island ship may look like a flush decker if the well decks are loaded with lumber, and masts may be lowered on some ships so that they look like kingposts.

An estimate of the age of a ship will often provide important clues to performance and identification. Age is frequently revealed by such characteristics as shape of bow, stern, superstructure, and funnels, and ratios of length to other dimensions, the amount of superstructure that is glass enclosed, the type of ventilation, and the type of lifeboat davits.

In peacetime, an aid for identification is the coloring of such features as the hull, superstructure, booting, stripes, masts and kingposts, cowls inside and out, and, of course, the funnel and house flag. In wartime the task is more difficult not only because of gray and dazzle paint, but because of deck cargo, armament, false work of canvas and sheet metal, and removal of dummy funnels.

In recent years there has been one development that simplified recognition of types but not of ownership: the building of ships to standard patterns. In World War I the Hog Islander was typical of freighters designed for mass production to meet wartime needs. The *President* liners, both 535's and 502's, were cargo-passenger ships of standard design. In the late 1930's the United States Maritime Commission began a new program of permanent standardized types to bring our merchant fleet out of the doldrums, beginning with the C1, C2, C3 cargo types. At the outset of World War II the British began an emergency building program to replace submarine losses, ordering a very simple reciprocating engine ship with split superstructure, the Ocean class, from United States yards. At home and in Canada they built similar *Fort* and *Park* class freighters and later some better turbine and diesel ships, all with the prefix *Empire*. The British *Ocean* design was modified in this country to a composite superstructure type, the *Liberty* ship, designated the EC2. Later in the war, the faster turbine *Victory* ships (VC-2) were built in considerable numbers. The regular peacetime program of C1,

C2, C3 types was enlarged, and joined by C4, C5, P1, P2, T1, T2, T3 oceangoing types of cargo, passenger, and tanker designs. The C1MAV1 coastal cargo ship, an even smaller N3 type, and many standardized tugs, barges, and lake ships were also built. The Japanese, too, had to resort to mass production of ships to meet emergency needs, producing a whole series of ships with simplified lines.

After the war, these mass-produced vessels, American, British, and to some extent Japanese, accounted for a very considerable proportion of all shipping afloat. Because of surplus sales, and lend-lease transfers not returned, a number of American designs, especially *Liberty*, *Victory*, and T2 tanker, are now found under many flags. These standard types make recognition training easier, but a positive identification of nationality often requires more than visual observation.

Our country has led the way since the war in building or ordering abroad so-called "supertankers," grossing about 17,000 tons and carrying about 28,000 deadweight tons. These vessels are operating under a number of flags including Panamanian, Honduran, and Liberian, as well as the better known United States shipping companies. The new *Mariner* class vessels represent a significant change in cargo ship design, and though they are few in numbers now, they may be very important in any future war.

In summary it can be pointed out that accurate ship recognition and reporting offers considerable opportunity to develop skill. Individual nationalities and shipyards have their own characteristic building habits in design and auxiliary equipment. Close attention and constant study will pay dividends in many types of intelligence billets.

Reporting on Naval Ships

All known naval vessels are much more completely covered in official manuals than are merchant ships. Additional unofficial sources that are very helpful are *Jane's Fighting Ships* and *Fahey's Ships and Aircraft of the United States Fleet*. Many of the recognition problems are somewhat similar to those of merchant ships, but the details to be reported on each vessel are more complicated and more urgently needed for naval purposes. In addition to simple recognition and

description, it is essential to obtain specific data on performance, armament, armor, fire control, and the efficiency of crews. Opportunities for observation may be more limited, since many countries do not expose their naval vessels needlessly. Even though an obscure aerial photograph may reveal no details, the hull proportions of length to beam may disclose the type. Generally, observation should include noting deck lines and superstructure, the types of gun mounts and the disposition of batteries, the peculiarities of masts and funnels, and the shape of bow and stern.

Observation of naval vessels is frequently complicated by their neutral color and complexity of gear. Frequent refits may modify appearance so that the vessel cannot be recognized from earlier drawings. It is incumbent upon the intelligence officer to be familiar with all the major vessel types: capital ships, cruisers, carriers, destroyers, submarines, mincraft, patrol craft, amphibious, all auxiliaries, and yardcraft, noting that there are many subtypes, each with a specialized and significant use. He should also note pendant or bow numbers, and, of course, names whenever possible.

Attention to armament should include various types of guns, torpedoes, guided missiles, mines, antiaircraft weapons, rockets, directors, and radar. The armor protection of side, deck, turret, and tower are important, together with compartmentation and damage control measures. Mobility—speed and maneuverability—and sea-keeping qualities in various kinds of weather must also be ascertained. These are but the bare essentials, and the individual officer should continue his studies of naval vessels constantly in order to make the most of reporting opportunities.

Reporting on Aircraft

As in the case of ships, there are two principal approaches to aircraft recognition. One is in combat operations, when rapid identification is required. The best results in this type of recognition have been achieved by use of the American Renshaw system, which consists of constant drill on total form. The other approach is more productive of information of intelligence interest, the British WEFT system: Wings—Engines—Fuselage—Tail. It comprises a systematic detailed

description. The observer, of course, must have a photograph to study or actually see the plane in a slow fly past.

Wings are described according to their position on the fuselage, their size and shape: whether they are dihedral, if swept back and to what degree, gull or inverted gull, square or tapered, with rounded or square tips. Engines are noted as to number, whether in-line or radial reciprocating, turbo-jet, pulse-jet, ram-jet, or turbo-prop, and in respect to propellers the number of blades and whether they are coaxial contrarotating. In respect to the fuselage, general proportions, shape, and position of protuberances such as cockpit, gun turrets, radomes, and air intakes are important. Reporting on the tail must include shape, number of vertical stabilizers, position of the horizontal stabilizer, and the extent to which the tail fairs into the fuselage.

Aircraft structural terminology is part of the intelligence officer's professional equipment. He must also seek data on range, speed, maneuverability, lifting capacity, performance at usual operational and highest possible altitudes, vulnerabilities, tactics employed, maintenance, and so forth. The appearance of a particular aircraft at a certain location may give clues as to unsuspected longer range. Air technical intelligence, as noted earlier, will supply detailed answers to many questions of production rate, metallurgy, and equipment when opportunity is afforded to examine captured planes or their component parts.

The significance of aircraft observation thus goes far beyond a mere determination of friend or foe. The appearance of German jets and rocket planes in World War II represented an outstanding example of how prompt recognition resulted in significant intelligence. We were able to assess their performance and take the proper countermeasures to save our bombing program on the continent and to avert defeat in the air.

Reporting on Air Facilities

Just as the proper use of the standard information report form insures completeness of reporting on items of general naval interest, the use of a standard form for describing foreign air facilities (NME-193) serves as a guide to the intelligence officer reporting on airfields and seaplane stations.

It systematically provides spaces for entering detailed information on location, runways, communication facilities, installations, transportation, meteorological conditions, and servicing facilities. Such reports are augmented by enclosures which furnish additional data through maps, photographs, approach procedures, operation regulations, and other pertinent facts.

A separate report is required for each facility, and the information thus obtained is used in the compilation of foreign airfield lists published jointly by the Air Force and ONI, and in the compilation of aeronautical charts and related publications published by the Aeronautical Chart Service and the Navy Hydrographic Office.

Other Subjects of Reporting

The fact that ships and aircraft have been singled out for special treatment above is in no way intended to minimize the importance of many other items of naval interest. Ports and harbors, of course, are to ships what air facilities are to aircraft, and information on ports and harbors represents a continuing requirement on naval intelligence. A special guide published for the collector outlines the types of information desired in considerable detail. They include complete assessment of the harbor and its approaches, the docking, cargo transfer, and storage facilities, inland clearance, repair and servicing, and a host of other items. A complete port study is not possible through a casual visit. It requires days and sometimes months of the keenest observation and most careful evaluation.

Land transportation facilities, including railways, roads, bridges, tunnels, urban transit systems, inland waterways, and so forth, are primarily under the cognizance of the Army Transportation Corps, yet a naval observer may on occasion be in the best position to observe and report on them. Irrespective of source, such information is of vital importance to Navy planning. Even the seagoing naval officer when in port can note railway gage, number of tracks, condition of rails, ties, and ballast, signaling system used, gradient and curvature markers, location of passing tracks, branch lines, bridges, culverts, tunnels, stations, repair, fuel and storage facilities,

size of marshalling yards, locomotive and car wheel arrangements, fuel used, freight observed in movement, types of couplers and brakes, and many similar items. It is all needed for accurate assessment of railway capacity and vulnerability.

Roads and highways should likewise be observed for location and mileages, branches, number of lanes, width of lanes and shoulders, surface material, present condition, bridge construction and clearance. Reports on waterways should include information on the depths of water by seasons, degree of maintenance required, facilities for cargo transfer, and all dimensions of canal locks.

Telecommunications facilities, though of a technical nature, also provide material for useful reporting even by the amateur. Noting the efficiency and extensiveness of the telephone and telegraph networks, the frequencies and locations of radio stations, and the shapes and positions of antennas will always yield valuable data.

Power facilities are frequently keys to the capabilities and vulnerabilities of an area. Noting power lines, substations, hydroelectric and thermoelectric plants, the voltage and frequency of consumer electric power, and the availability of power fuels, such as coal and oil, will provide material for many reports.

Industrial reporting is complex and varied, and accurate identification by mere observation from the outside is often difficult. A collector going to a foreign port should make a careful study of the types of industrial installations he is apt to encounter in order to recognize them readily for what they are: steel mills, processing plants, construction works, and so forth, and whether they function in heavy, light, or agricultural industries. Estimations on production volume may be related to observed flows of raw materials, and numbers of workers. Labels on crates may give clues to origins and destinations. Pacing off or using an automobile speedometer may give plant dimensions. Good opportunities for accurate reporting should not go begging for lack of ingenuity.

Such observations should be considered a matter of collection and reporting routine. In this country such information is readily available to all foreign nations from libraries, newspapers, and brochures published by local chambers of com-

merce. Collection abroad is often not so easy, so a greater burden of observation rests on the collecting agency. If opportunities for observation are fleeting, and the information is critical, the observer must concentrate on essential elements, and memorize them until he has an opportunity for recording without risk of compromise. Taking pictures is subject to the same qualifications: they are invaluable, but unless the need is very great they should not be taken in a manner open to easy compromise or diplomatic censure.

The Intelligence Sketch

Sketching is one of the old forms of reporting information. Whether a sketch is simple and rough or elaborate and artistic, it affords a graphic means of communication which in many cases is much more effective than a written description. In circumstances where photography is impossible or inadvisable the sketch is the solution, and a maxim for the collector is: "If you can't photograph it, sketch it!"

Some typical instances when sketching would be most valuable and appropriate are given below:

A naval attaché has been granted permission to travel into the interior of the country in which he is stationed and to visit certain military and industrial installations. Photography has been forbidden, and well aware that he cannot rely on his memory for all details, he plans certain memory aids which will help him sketch the locations, structures, and plant layouts when he returns to his office.

A prisoner of war, when being interrogated, revealed that he had recently been assigned to guard duty in a restricted harbor area. Although he is unable to describe verbally all that he saw, he can produce a rough sketch of certain port installations and identify buildings. This information later proves to supply missing information on that particular harbor.

In the course of a mission, a pilot observes a type of aircraft unknown to him. The air intelligence officer, debriefing the pilot, translates a description of the new plane into a sketch. (See fig. 10.) Analysis of the sketch reveals technical developments hitherto unsuspected, thus resulting in a reassessment of the enemy's air capabilities.

An intelligence officer, put ashore with an amphibious reconnaissance patrol, is able to sketch the locations and relative bearings of a series of beach defenses. This sketch information, when delivered to the commander of the support group, makes it possible for naval gunfire support to be directed with greater accuracy.

The most elementary kind of sketching is a two dimensional drawing representing total form. (See fig. 11.) To achieve proper proportions the use of graph paper is recommended, particularly by the intelligence officer new to his job, but experience and constant practice will soon eliminate the need for graph paper assistance.

Problems often arise in sketching such things as general terrain, waterfront areas, and buildings. A plane view would meet the minimum requirements, but by employing a simple sighting device, often used by landscape artists, it is possible to include perspective while retaining approximate scale. All that is needed is a pencil or ruler. Suppose the subject is a building. Sighting the building over a pencil held vertically at arm's length it is found that the building's height is equal to about 2 inches of the pencils length. A 2 inch vertical line transcribed on paper is the first step in sketching the building. Its length is determined in the same manner by sighting with the pencil held horizontally. Height and length are thus transcribed in correct proportion.

Beach sketching from seaward, invaluable in amphibious operations, can be mastered by any intelligence officer with the help of H. O. Publication No. 227, *The Amphibious Sketch*. For self-instruction in general sketching the following books are recommended: Arthur L. Guptill, *Free-hand Drawing Self-Taught*, published by Harpers Bros., and Ernest W. Watson, *Pencil Drawing*, published by Watson-Guptill Publications, Inc.

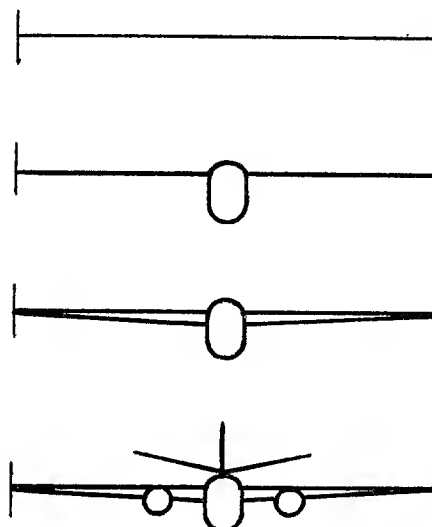
Adequate sketching requires no special equipment other than a pencil, soft eraser, and paper. For general purposes, a 2-H (medium) pencil is best because it is soft enough to produce a firm mark with minimum pressure and yet does not smear readily. The type of drawing paper used will naturally influence the result obtained, so for general purposes paper of soft texture, not glossy, is best.

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Sketching Aircraft

HEAD-ON VIEW

- (1) Draw a horizontal line, marking off a distance to represent wing span.
- (2) Draw outline of fuselage cross section in proportion to wing span, locating it to indicate high, mid, or low wing as appropriate.
- (3) Draw wing shape, indicating dihedral, if any.
- (4) Add wing floats or tanks, if any.
- (5) Draw tail surfaces in proper proportion and add any other features such as cockpit canopy, engine nacelles, aircoops.



PLAN VIEW

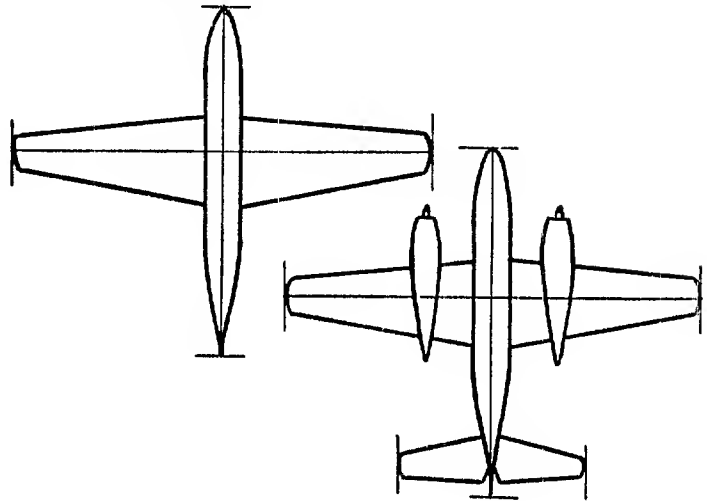
- (1) Draw a vertical line, marking off a distance to indicate length of fuselage.
- (2) Sketch outline of fuselage.
- (3) Locate wing by a horizontal line, indicating span in proportion to fuselage length.
 With sweptback wings, the line should run through tips. Mark on fuselage positions of leading edge and trailing edge at roots.



Figure 10.—Sketching aircraft.

PLAN VIEW (Cont.)

- (4) Draw wing tips, with tanks when included, and complete the outline of the wings.
- (5) Add engine nacelles, if any, and draw tail plane.



SIDE VIEW

- (1) Indicate over-all length on a horizontal line.
- (2) Draw general outline of fuselage to show relative thickness as well as curvature and taper.
- (3) Draw fin and rudder in proper proportion.
- (4) Add any further prominent features—cock-pit canopy, turrets, radomes, scoops, or engine nacelles showing above or below the fuselage.
- (5) Add wings, stabilizer, and other details if desired.
For silhouette effect, fill in the outline sketches.

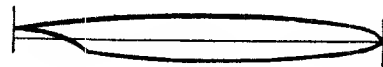


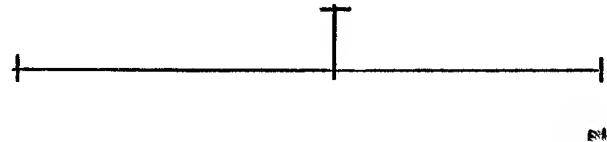
Figure 10.—Continued

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Sketching Warships

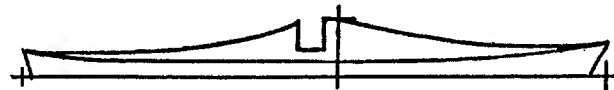
A.

- (1) Draw a straight horizontal line to represent the water line, marking position of bow and stern.
- (2) Estimate the height of the bridge in proportion to indicated ship's length at the water line.



B.

- (1) Draw the deck line and profiles of bow and stern.
- (2) Draw in outline the general mass of the superstructure. This step is most important as the over all shape is a major Recognition feature.



C.

- (1) Add important details—bridge, stacks, masts, turrets.
- (2) Fill in for silhouette effect.



Figure 11.—Sketching warships.

CONFIDENTIAL**INTELLIGENCE FOR NAVAL OFFICERS****RECORDING**

A discussion of collection will not be complete without mention of a final requirement: the proper filing and recording of the results of the collection effort. Information must be labeled for ready reference. Such cataloging and indexing should begin when the collector in the field gathers his material for a report. The efficient collector should keep a personal file of facts and notes on people, places, and events. In form these may be card files, annotated clippings from newspapers and magazines, or penciled memoranda. Some orderly arrangement of this material will pay off when information is needed for reference or suggestion for leads. Just as a good reporter the intelligence officer should write down observations and impressions while they are fresh in his mind. Memory can play strange tricks, and in intelligence activity there is no place for hazy recollection.

A standard Intelligence File Index, used by United States intelligence agencies, assures uniform filing of information reports by all processing units. Thus a report or dispatch received by the Navy from Army or Air Force sources bears the same file number as it would if it had originated from a Navy collecting unit. Cross-indexing provides for further efficiency.

Further consideration to the principles of filing will be given in the following chapter on processing, for it is in the second step in the cycle that orderly arrangement of data becomes even more essential to the intelligence function in any military establishment.

This chapter is not an exhaustive treatment of collection. Aspects and applications of this first step in the intelligence cycle will appear again and again in succeeding chapters, for collection is basic to intelligence activity; it sets the wheels in motion; on its efficient operation the remaining steps of the cycle depend.

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CONFIDENTIAL**CHAPTER 10****THE INTELLIGENCE CYCLE: PROCESSING**

In the continuous operation of the intelligence cycle, Collection provides the essential raw material and processing acts in the manner of a catalytic agent, transforming pertinent parts of the material into a meaningful product ready for dissemination and eventual use by appropriate action agencies. During this second phase of the cycle, the trained intelligence officer and the skilled analyst work with quantities of raw information collected from a great variety of sources, selecting, verifying, comparing, and interpreting items of value, and acting upon the results to produce usable intelligence. The basic problem is one of determining the significance of information in the light of past experience, present circumstances, and possible future developments. To be utilized by the analyst in solving this problem are the principles of logic, reasoning, and exhaustive research. As is true of the social sciences, intelligence is based on observed phenomena or facts from which generalized conclusions are drawn. Therefore, processing is much more than the orderly assembling of related facts and the determining of their significance; it involves the deriving of total meaning from these facts when related to other intelligence already available.

As distinguished from the other phases of the cycle, processing is fundamentally a mental operation, carried out primarily at higher echelons by specifically assigned analysts who are carefully selected and intensively trained for specialized activities. However, limited processing may be performed by any part of the intelligence organization, particularly at the lower echelons where all phases of the cycle are often the responsibility of a single unit or perhaps one intelligence officer. This is true because information for intelligence is never static, but in continual motion. It is gathered, and processed to a degree, by the collector who disseminates it upward to higher echelons, laterally to other echelons on the same level, or downward to lower echelons where it may be subjected again and again to processing by different individuals and from different viewpoints.

Even when processed information, which is intelligence, has been placed in filing cabinets, it is only in suspended animation. It may already have set in motion a chain of events, or it may be drawn from the files at any time for use in conjunction with later information or intelligence to activate further events.

Processing is a continuous operation because information of intelligence interest is constantly being collected and because each item of processed intelligence will open new areas of collection. It is a vital operation because collected facts and data have intelligence value only as the result of processing; failure to process represents a costly waste of the collection effort. Even processed information requires frequent re-evaluation in order that it may have current utility. Processing functions are also activated when requests are received for intelligence on a given topic and when solutions are required for problems arising out of planning for strategic, operational, or countering purposes.

In the processing phase of the cycle, three general factors must always be kept in mind: the completeness of the basic data, the accuracy of the operation by which information is converted into intelligence, and the element of time. In order that the conclusions may be truly comprehensive and not partial, the basic facts and data used must be as inclusive as possible. In order to avoid errors which would render conclusions not only meaningless but also highly dangerous, the various processing functions must be expertly performed. Finally, because intelligence must be produced in sufficient time to be of value to those who need it, all information received by the processing unit must be handled expeditiously.

The time-span of the processing phase is conditioned both by the nature of the information received and the urgency of the need for it. For example, a flash report from a subordinate commander of an impending enemy air attack on a carrier would be disseminated immediately and the processing phase would be eliminated. Information suggesting an imminent military attack on an

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ally of the United States might force the concentration of all processing activity into a matter of hours. On the other hand, a report including conflicting implications of an anticipated change of government in a country of minor world importance might require a longer period for thorough processing. At all times, however, speed in processing is important because of the constant possibility that the final interpretation of the information may have meaning of vital and immediate concern to a potential user.

Because of its abstract nature, the diverse circumstances affecting it, and the varied application of its general principles, processing cannot be reduced to a series of mechanical operations. It includes a number of mental functions which are intricately interwoven and often overlapping as they continue toward the goal of correct conclusions. At times several of these functions are performed simultaneously and they do not necessarily follow one another in fixed sequence. As a result, there will seldom be complete detailed agreement as to the particular functions encompassed by processing or the terms to be used in describing them. However, the integral functions may be identified, for all practical purposes, as selection, evaluation, analysis, interpretation, and action. For the purposes of discussion only can they be considered separately.

There are certain techniques and aids or devices generally used in processing, such as labeling, indexing, and filing. However, they are not ends in themselves and must never obscure the ultimate objective of processing which is the production of intelligence.

SELECTION

Volumes of information are received continuously by processing units in the form of reports, messages, charts, photographs, journals, and printed material of all types. Diverse topics of potential intelligence value may be included within a single report or bits of information regarding one topic of interest may be scattered among many. Since no item may be disregarded and many may be obscured by the very bulk of the reports in which they are contained, there must be a careful sifting of all information received on the basis of interests and specific pending requests to extract

data of value. Selection, then, is the preliminary examination of information to determine the need for it, the degree of interest it holds, its possible use, and its meaning. If meaning is readily apparent, the information will be disseminated promptly, even at this early stage of consideration.

Selection, however, is much more than the extracting of pertinent data. It is the first step of processing whereby controls are established over all extracted material in order to make it available in usable form to the appropriate intelligence analysts. Depending upon the particular requirements of the analyst, the material received may be best controlled by subdividing it under general headings such as persons, places, organizations, situations, and trends. The sorting and grouping of information under headings such as these facilitate the current and future use of all extracted material; they are also of immediate value to the other functions of processing.

Related to the establishment of controls are two additional activities by analysts which are part of the function of selection. The first is the prompt distribution of incoming material within the processing unit in order to maintain the rapid flow of information to all analysts who need it. How to minimize the circulation to analysts of information in which they have no interest is one problem of distribution. The second activity is that of labelling material for later filing and indexing in the reference files. The objective of this activity, of course, is to insure ready availability to the analyst of any material he has reviewed or processed, regardless of the means he may use to identify it at the time. The participation of the analyst in this preliminary phase of indexing and filing increases the probability that each item will be identifiable under the widest variety of headings by reference file personnel.

EVALUATION

Evaluation is a continuing function of processing. In fact, it is perpetual within the intelligence cycle, beginning when the collector considers certain information worthy of reporting, and continuing thereafter as this information is passed from person to person. Within a processing unit, which has received information from many sources, evaluation is the competent consideration

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of each item of information, the study of its relationships with other pertinent information, and the determination of its accuracy, completeness, and inherent meaning. A basic problem in evaluation is the fact that the very nature of information collected for intelligence purposes usually precludes assigning it an absolute value, either true or false. Of necessity, therefore, this information must be evaluated on the basis of its relationship to known fact and the degree to which it is in agreement with the known fact.

Nonevaluated information is not intelligence and has little value for intelligence purposes. In fact, it can be potentially dangerous if disseminated without being clearly identified as such. Generally, every effort should be made to evaluate information properly prior to its dissemination. Basic considerations in the function of evaluating information are the reliability of its source and the accuracy of its content.

The Standard Evaluation Code

As a means of rating the reliability of the source and the probability of the information itself, a standard letter-figure code system is widely used by United States intelligence agencies and should, therefore, be thoroughly understood by all intelligence personnel. As indicated below, the source is given a letter rating of from A to F and the content a figure rating of from 1 to 6.

<i>Reliability of Source</i>	<i>Probability of Information</i>
A—Completely reliable	1—Confirmed by other sources
B—Usually reliable	2—Probably true
C—Fairly reliable	3—Possibly true
D—Not usually reliable	4—Doubtfully true
E—Unreliable	5—Improbable report
F—Reliability cannot be judged	6—Truth cannot be judged

In general, collectors in the field apply this code system to reports which they submit. Initially, the writer of the report is the most competent judge of the reliability of his source. Reports based on personal observation are normally rated "A," while those obtained from informants whose reliability can be judged in the light of past experience are rated "B," "C," or "D." An "F" rating simply means that the reporting officer has nothing upon which to estimate the source's reliability. It may be the first time the source has supplied any information and the reporting officer

cannot assess him by association, by the valued opinion of colleagues, or by recommendation of other trusted informants. The "E" rating is rarely used by originators of reports, except perhaps when distortion or falseness may provide useful background information. However, it may be used by subsequent processors when additional information not available to the collector indicates that the source is completely unreliable, as far as the information supplied in a particular instance is concerned.

The ratings assigned by field agencies are not automatically accepted by the intelligence processing units; rather, they are used as guides. Since the processing units sometimes have more information on an original source than the collector, field ratings are subject to change. Even the direct observation of the originator, which has been rated by him as "A," may be downgraded by the analyst on the basis of previous experience with the originator's accuracy of observation and reporting. It is also possible that a source of the originator may be rated as "F" by the analyst if no information is available to substantiate the assigned rating.

There is no firm relationship between the letters and figures of the rating code. An "A" source will not always produce information of "1" or "2" rating, for mistakes can be made by the most reliable sources. On the other hand, an "E" source may supply information that is probably true or confirmed by other sources. Usually, however, the most accurate information will come from the most reliable source; hence the source does tend to influence the rating of the content. Ideally, source and content should always be considered entirely separately. However, there are instances when the reliability of the source has a direct bearing on content, especially when there is no other means for judging the material under consideration. As a result, cumulative records of the reliability and accuracy of repetitive sources can be particularly helpful. When the originator assigns a low rating to information there is a tendency on the part of the analyst to accept it.

To be re-emphasized is the fact that the Standard Evaluation Code is to be used only as a guide and not taken too literally. As is often true of standardized rating systems, assigned values tend

to be arbitrary and subject to diverse interpretation by its users who have varied backgrounds of experience and training. The rating of the content of the information is particularly difficult since degrees of accuracy and probability are involved. Information may be only partially correct, or, though correct in itself, may convey false implications. It is equally the case that the reliability of a source may change, so that its ratings may vary over a period of time. Giving due consideration to the ratings assigned by the originator, the analyst carefully examines the source and content of the information received on the basis of the total related information and intelligence available to him.

Testing the Source

In determining the reliability of the source, the analyst must distinguish between the actual source and the transmitting agency. When the action source is not revealed, however, the reliability of the transmitter, and *his* evaluation of the source, assumes primary importance. Theoretically, the only absolute sources for the analyst are his own direct observation and proven documentary evidence. The first is seldom possible and even the second must be verified. In testing for reliability, the first question is that of *authenticity*. Is the source from which the report ostensibly comes the true source? Or has false information been released for purposes of deception?

An example of the dangers of incorrect evaluation of the authenticity of a source is described by Hector C. Bywater in *Their Secret Purposes: Dramas and Mysteries of the Naval War*. During World War I, a German warrant officer discovered charts of Russian mine fields and coast defenses in a brief case which the beautiful Anna of Libau claimed had been left behind by a former lover. Much excited by his discovery, the German officer obtained an audience with German naval authorities who acted on his information. Minesweepers were sent out at night, and it was found that the indicated clear channel was actually free of mines. Gun flashes were observed at the shore defense positions marked on the charts, and the Germans worked out their gunfire problems accordingly. The next day, a strong force of German ships moved in, not to victory, but to disaster. The

Russians had sown mines in the clear channel after the minesweepers' investigation of the night before, and the gun positions proved to be dummies, located far from the site of the actual coast defense batteries. The warrant officer was a reliable source, but the papers found were false, and Anna of Libau was subsequently identified as a long-term Russian agent.

The second question which arises in testing a source for reliability is that of *trustworthiness*, which includes the factors of loyalty, motive, and objectivity. Trustworthiness may change with the passage of time. A source may have divided and conflicting loyalties, and the evaluator should anticipate circumstances under which that person's loyalty might be weakened or turned to active hostility in the future. Loyalty of a source may be determined to some extent by background, past performance, and present position. For example, an officer or enlisted man in the United States armed forces would be given a higher loyalty rating, and hence considered more trustworthy, than a citizen of a neutral country or a prisoner of war. The motive of a source in giving information must be carefully considered. Perhaps he acted under the stimulus of strong emotion, such as jealousy, revenge, patriotism, or fanaticism. Motives are sometimes revealed by the manner in which the information is made available, or by a study of the source's background and personality. Objectivity is even more difficult to determine than loyalty and motive. Every individual has certain prejudices and no one is a completely objective witness, so that the analyst must try to determine whether or not the report is biased or objective. What a collector sees and reports may be colored by subconscious reactions to certain things or little idiosyncrasies of which even he may be quite unaware. Few people have photographic memories or the ability to reproduce at a later time all of the significant points of a lengthy conversation. Personal interpretation is a common failing. Because of these various hindrances to objectivity on the part of the observer, the analyst should know as much as possible about the reporter and be continually on guard against personality factors which can impair objectivity.

The third question regarding reliability relates to the *competency* of the source. What have been

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his training, experience, and opportunity for judging what he has seen? An observer who is known to be an expert in a given field of knowledge may usually be presumed to be competent in related fields. If in the past he has been a close and accurate observer, whether or not he is aware of the full implications of what he reports, the chances are that his information has value. The reporter who has lived in a foreign country for several years will usually supply more discerning comment than will the reporter who has newly arrived on the scene. Competency also involves the ability of the observer to gain the information in question. What would have been his means of access, or would he have been in a position to observe what he has reported?

Testing the Information

As already indicated, the evaluation of the content of information is a matter of judging the degree of probability and accuracy. To what extent is it true or possible? Three helpful criteria at this point are: *coherence*, *credibility*, and *confirmation*. The use of these criteria depends, of course, upon the quantity of similar information received and the nature of the information itself. If, for example, no similar information has been received, the use of the criterion of confirmation may not be possible.

On the average, it is to be expected that new information of value will have *coherence*, that is, it will be consistent within itself and its ideas will be related to each other in a logical manner. If it is self-contradictory, its probability is immediately subject to question. Relevant details add to the coherence of information by amplifying general statements which might otherwise be vague and of little value. As a criterion, however, coherence is only preliminary and by no means conclusive. Completely inaccurate information may appear to be logical and consistent, while sound information may seem to contain some inconsistencies. Nor do details in and of themselves insure correctness; yet they do provide additional means of verification.

Credibility is determined by the way the information fits into the general pattern of activity of which it is a part. It is worthy of belief if consistent with the accumulated body of intelligence. Startling information which is completely con-

trary to the general progress of events or the behavior trends of individuals or groups becomes suspect to the analyst. The analyst's own experience in processing and general background knowledge are particularly useful here. He must be alert to the subtleties of behavior patterns which on the surface appear to vary and change. This alertness should prevent him from discarding information just because it does not at first appear to be consistent with his general knowledge. However, it is more often the case that a report which is consistent with available intelligence is worthy of credence. A report which is at variance with the intelligence at hand should be subject to further study, even though it has met the criteria of coherence and confirmation.

The *confirmation* of the content of information by other specific information on the same or related subjects greatly increases its degree of probability and accuracy. By means of this criteria, new information may be confirmed, not confirmed, or contradicted. Two reports containing similar data, but originating from different sources, must be closely compared down to the smallest details, if the information contained therein is to be confirmed. Minute differences do not as a rule destroy the value of those portions of the two reports which can be reconciled. The comparability of new information with known facts may aid in its confirmation. For example, an operational report may give a new location for certain enemy fleet units. If these units have the capability of reaching the new location from their last known position, and if this new disposition is in agreement with the current operational situation, then the report assumes greater degree of accuracy.

To be emphasized is the fact that the degree of accuracy of new information cannot be established by satisfying only one of these three criteria. Coherence, credibility, and confirmation are inter-related, so that an item must be judged accurate in proportion to the degree it satisfies all three. The reliability of the source is another factor which may be considered.

Problems of Evaluation

The evaluation of new information is often difficult and complicated by a number of problems, some of which can be minimized by the collector.

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Such problems include improper identification, inaccurate or incomplete reporting, duplicate reporting, contradiction, and determination of inherent meaning.

If the new information concerns persons or places, the greatest care must be taken to identify them completely. Surnames must be combined with complete given names to avoid mistaken identity. If the surname is a common one, it may be necessary to include birthdate and physical description to make sure that there can be no misunderstanding as to the particular individual in question. Variations in spelling and aliases must be noted. In the case of places, the use of geographical coordinates, reference points, and physical relationships to known positions can be extremely important. This is especially true of places in areas which are little known, have not been completely mapped, or where local names are the colloquialisms of indigenous groups.

Inaccurate, careless reporting can and does result in inconsistencies and incoherent logic. Excessive wordage and long, involved comments can obscure the facts of the case, complicating the work of accurate evaluation. Poor editing itself may result in failure to note typographical errors and incorrect inferences which, in turn, can cause faulty reasoning based on false premises. Tendencies to insert personal opinions and wishful thinking in reports make it difficult, if not impossible, for the analyst to separate fact from fancy. Incomplete reporting results from failure to include all pertinent details in a report. For example, care should always be taken to identify the source of the information, if at all possible. When this is impossible or inadvisable, some evaluation should be given of the source as well as the content.

One of the most serious problems faced by the analyst is that of duplicate reporting. Information regarding the same topic may be received from different transmitting agencies so that one report tends to confirm the other, even though both agencies have received their information from the same source. The dangers of this situation are well illustrated by reports which reached Washington during World War II from two different collecting agencies regarding the identification of Nazi military units in an occupied country of Europe. Although the information of both reports

was the same in every detail, the sources appeared to the intelligence processing units to be quite different, apparently providing mutual confirmation. It later developed, however, when the two collecting agencies in the field compared notes, that the source of both reports was identical, and hence there was no real confirmation. Great care must be taken to avoid false confirmation.

In attempting to evaluate new information, the analyst may find two or more reports on the same topic which are completely contradictory and impossible to reconcile. The only action possible may be to summarize both reports, with no conclusion, and wait for further information which will permit accurate evaluation. At all times, evaluation can only be made on the basis of information actually available to the analyst, even though the existence of additional information is suspected or known. In such cases, the analyst must exercise the greatest caution and discretion, keeping in mind that well-founded doubts must be resolved in favor of the Navy.

Determination of Inherent Meaning

Testing for the degree of reliability and accuracy of new information does not complete the function of evaluation. It is still necessary to determine what this information actually means and thus how it may affect the total body of knowledge relating to the subject. Sometimes a report may have no significance, or its significance is obvious; sometimes parts of it make good sense, but other parts are still obscure and questionable. A detected flight of enemy bombers may on one occasion indicate a strike at only one target, but in other situations the attack may be directed against one or all of several possible targets. The movement of enemy barges may mean the reinforcement of a particular advance base or the staging of an amphibious operation according to the attendant circumstances. When the significance is obvious, dissemination of the information should be immediate. When the significance remains in doubt, further processing is necessary.

This early determination of meaning in the total processing operation does not necessarily involve immediately the later function of interpretation, although the nature of the information may permit interpretation to develop rapidly from

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its accurate evaluation. In many cases, this determination of meaning concerns only the direct implications of the information to a particular subject or situation. Therefore, further processing is required in order to place this new information in its proper perspective and to relate its significance to the total body of knowledge. Often confirmation of the content of information will merge into the processing function of analysis.

ANALYSIS

Various explanations may be given of the mental activity which takes place in many instances from the time new information is being evaluated until the time it is interpreted and transformed into intelligence. Some of these concern themselves with features of inductive and deductive reasoning and make use of such descriptive terms as analysis, collation, and synthesis or integration. These explanations can be helpful; they can also be confusing. Since it is extremely difficult to isolate or distinguish between some of these mental activities, they may all be included, from a practical point of view, in the general function of analysis.

An essential factor in processing, analysis is the comparison of information with known facts and previously evaluated data in order to determine relationships which may lead to pertinent inferences or conclusions. These relationships, in effect, become new, more comprehensive facts. During analysis, a study is made of the component parts of evaluated and related facts, their inter-relationships, and their effect on established patterns of activity. After the careful weighing of these parts and reaching of a composite judgment regarding them, they are then fitted together into a meaningful, coherent whole. The process of analysis is one of distilling and refining, of separating and re-combining. Sensitivity on the part of the analyst is required to catch all implications of the facts under consideration and to visualize every possible combination which will lead to fuller understanding and meaning. Analysis often aids in resolving contradictions and revealing the need for, if not the existence of, missing information. It frequently leads to the re-evaluation of the information being studied.

For the intelligence officer and the analyst, the function of analysis requires a fund of accumu-

lated knowledge, personal liaison with those who are authorities in the particular subject field under consideration, and intensive research. The required fund of knowledge is more than personal training and years of experience; it involves the ready availability of pertinent material which has been indexed and filed, together with the utilization of devices whereby this material can be considered in an orderly, logical manner. Effective personal liaison is also a practical means of further expanding the fund of knowledge, as required, to meet the needs of the analyst. It brings to bear on the problem additional points of view.

Research Methods

Research means careful searching, studious inquiry, and exhaustive investigation. It is an invaluable aid in helping to fill in some of the gaps of missing information. It provides important factual background, contributes to the verification of new information, and assists in the identification of material. It also contributes to the discovery of relationships which give meaning and significance to what might otherwise be disconnected facts and data.

The materials for research include written records, files, reference books, newspaper clippings, encyclopedias, and libraries, both general and special. Careful documentation of facts is, of course, essential to good research. In the compilation of data, working bibliographies should be prepared from card-index files, periodical guides, newspaper indices, and other reference guides. Each reference should be entered on a separate card. Individual cards should then be grouped according to major items of interest.

From the study of evaluated information and additional data gathered by research methods arises one or more tentative explanations or theories. As additional material is accumulated, the tentative explanation or theory is strengthened or weakened, or one or more appear to approach more nearly to the truth. Logical reasoning and sound judgment play an important part in this mental process which results in the drawing of pertinent inferences and the reaching of meaningful conclusions. To be avoided is the ready acceptance of the first reasonable explanation and conclusion derived from an analytical study. Thorough re-

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search will tend to insure greater accuracy of the function of analysis.

INTERPRETATION

Interpretation is the determining of the fullest possible meaning of partially processed information, considered in relation to all other pertinent knowledge and in the perspective of current planning. Depending upon its source and content, information can be, and sometimes is, given interpretation almost immediately after receipt. In some cases, its meaning is obvious. More often, new information must be subjected to the processing functions of selection, evaluation, and analysis before the most accurate interpretation can be made.

The full meaning of information inevitably relates to its effect on an existing condition or situation. Does this new information alter or add significance to what is already known? Does it tend to confirm or disprove what is now believed to be true? What are its implications? Correct interpretation completes the final transformation of information into intelligence ready for use.

When strategic uses are involved, interpretation must take into consideration all relevant components of intelligence knowledge: military geography, transportation and telecommunications, sociological, political, economic, scientific and technical, armed forces, and biographical. It must be comprehensive if it is to give accurate indication of a foreign nation's capabilities or intentions. As new information is processed, the interpretations made will affect in some manner the current intelligence estimates of that nation. New capabilities may be discovered, and old ones discarded.

When operational uses are being considered, interpretation can supply the commander with intelligence vital to his estimate of the situation and his selection of the course of action which will most nearly permit the fulfillment of his assigned mission. For example, knowledge of the disposition of opposing enemy forces is not completely processed intelligence. Such knowledge is finally processed only when it has been interpreted in conjunction with such factors as terrain, weather, logistics, and morale. Full meaning will relate to the capabilities of the enemy forces to initiate or resist an attack.

The intelligence officer and the analyst can best perform their function of interpretation only when fully aware of the direction of current planning. They must also make full use of their own knowledge and experience. Other factors in interpretation are logical reasoning and conscientious consultation with associates in order that an accurate and valid interpretation can be most nearly assured. Acuteness and ingenuity are requisites for the interpretation of all implications which may arise out of processed information.

ACTION IN PROCESSING

As used in processing, the term "action" refers to requests for further collection, the preparation of reports and studies, and the initiation of recommendations regarding policies and planning.

At any point in the processing phase of the cycle, the analyst may require additional information or amplification of information being processed. Accordingly, specific requests for collection are addressed to available agencies. Such requests should include detailed requirements and time limitations. Close coordination of the efforts of collecting and processing units can greatly increase the overall efficiency of intelligence production. Processing units should fully understand the limitations and capabilities of the various collection agencies; at the same time, the collection agencies should endeavor to anticipate the requirements of processing and transmit information in lucid and usable form.

The preparation of the first draft of reports and studies begins with the review and grouping of the analyst's reference cards. The objective is to present ideas in clear and simple language, so that the completed study may be clear, logical, and complete. Critical, objective review is necessary to make certain that no false implications and erroneous inferences can be drawn from the statements made. Any excursions from the central theme should be rigorously excluded or, if there is a need for such observations, they should be relegated to a separate appendix rather than permitted in the main text. At times, the interpretation of new information may suggest the need for changes in or modification of current policies and planning. Completely new policies and major revisions in planning may appear to be urgently

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required. In such cases, appropriate recommendations, carefully documented and substantiated, should be prepared for forwarding to the action agencies concerned. The decision as to the proper action agency and other interested agencies which should receive the intelligence product leads to dissemination, the third phase of the cycle.

AN ILLUSTRATION OF PROCESSING

Some of the functions of processing and problems faced by intelligence personnel may be better understood when applied to a specific intelligence situation. For purposes of simplification, the situation selected for discussion is one which confronted a Norwegian intelligence activity located in neutral Sweden during World War II.

Through close liaison with the underground organization in occupied Norway, a wealth of information was received concerning the activities of German submarines operating out of the huge concrete pens at Bergen and Trondheim. The underground found it extremely difficult to overcome the stringent security measures effected at these installations and only on rare occasions did opportunity arise for close observation. The Germans, however, sometimes employed Norwegian laborers to carry supplies on board U-boats outfitting in "Dora," the pens at Trondheim. One of these laborers was a loyal patriot who faithfully reported his observations to representatives of the underground. No loitering was allowed any of the workers around the pens, and certainly a man bent over with a heavy sack on his back is not in the best position for observation. Besides, he had no knowledge of submarines and was unable to identify technical equipment. Nevertheless, his reports were carefully scrutinized when they reached Sweden. One of them contained a puzzling bit of information. In the course of a rather garrulous account of his movements while carrying boxes and sacks of supplies from the warehouse to the U-boat, the observer mentioned that he had to step over a "rör" lying on the deck.

What was this "rör"? The Norwegian word means "pipe" and is used to describe many kinds of structural tubes. What was its diameter, length, of what material was it made? Was it a water pipe, a wire conduit, a new periscope? Could a sketch of it be supplied? Back to Trond-

heim went a request for more information. In about a week a reply was received, accompanied by a very crude sketch. The sketch was of little value; it revealed no detail and was not drawn to scale. The supplementary information was somewhat more helpful, although the observer did not really get a good look at the pipe because there were too many German sailors standing around it. As he recalled, the part of the pipe he stepped over was about two feet in diameter. No, he didn't think it was a periscope. He couldn't tell what material it was made from since it was painted the same color as the rest of the U-boat. It was lying just forward of the conning tower. That was about all he could remember.

How could these meager facts be evaluated and interpreted? The source was certainly authentic. Trustworthy? Yes, that too, for he was motivated by patriotic desire to aid his country's cause, and was completely vouched for by the underground. Competent? Unfortunately not. He was one of the unusual Norwegians who had never been to sea, nor had he ever worked as a stevedore or anywhere around a dock area. He had worked all his life with his hands, but had never operated machinery of any kind. He also doubted that he would get another work assignment in "Dora," since his gang had been transferred to another part of the city for road repair.

To what further tests could the information be subjected. There was no possibility of confirmation by other sources available to the underground. Was it coherent, or credible in the light of existing information? The U-boat had been positively identified by coast-watchers, and the names of the commander and many of the crew were known. It had been in the pen twenty days, long enough for minor repairs and installation of new equipment. Were the pens capable of making new equipment? No, everything came from Germany, but installation could be made either by the U-boat's crew or by certain German technicians employed at the pen. Consultation with a refugee Norwegian naval officer, who had once been a submariner, brought no new leads or suggestions.

At this point there was not much to analyze, or interpret. Yet anything new on U-boats and their operations had a high intelligence priority and

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was eagerly scrutinized by the Allied intelligence agencies in London. Perhaps the pipe would mean something to a staff expert on submarines. Accordingly the information was sent to London. An immediate reply was received, directing that every effort should be made to continue the observations at "Dora," and to note especially the presence of similar "pipes" on other U-boats.

The Norwegian underground renewed attempts to penetrate the pens at both Trondheim and Bergen, but several weeks passed without result. German vigilance had not been relaxed.

Then came a report from the Admiralty that a damaged U-boat had been captured in the North Sea. It was equipped with snorkel. The mystery of the "rör" was solved. It was a logical inference that U-boats were being equipped with snorkels at bases in Norway. Full description and accurate drawings were now available and coast-watchers henceforth could identify snorkel on U-boats passing through Norwegian fjords. Strategic and tactical planners had to cope with a new U-boat capability.

The incident was certainly not a triumph for intelligence, as far as its forewarning function is concerned. It could have been if the "rör" had been seen by a competent observer. It does illustrate, however, typical frustrations in the collecting and processing of information. Little things have significance only when they are correctly interpreted.

PERSONNEL FOR PROCESSING

Any discussion of the functions of processing quickly reveals the requirements for a highly competent and skilled staff of personnel, both military and civilian. The experiences of intelligence agencies during World War II emphasized above all the need for personnel possessed of the peculiar talents required in processing information into a product of real value and use. It must be re-emphasized that not just any officer can be assigned to an intelligence processing billet and expected to produce satisfactorily. In an age of specialization in so many fields of endeavor, Intelligence has of necessity also become a specialized activity. However, particular training is not alone sufficient; selected personnel must have capability and adaptability for this particular activity. This is

equally true for civilian personnel, so that their selection involves much more than a consideration of paper qualifications. Since mental capabilities must be demonstrated, flexibility in the assignment of personnel is essential.

Acquirable qualifications for analysis include a college education, preferably with experience in research methodology; demonstrated ability to write; experience in intelligence activity, including knowledge of intelligence functions and responsibilities; and, whenever possible, a working knowledge of the particular language of the area of interest to which assigned, as well as travel or residence within that area.

In addition to training and experience, the qualities of the analytical mind are indispensable. These qualities include objectivity of approach, an enthusiasm in the painstaking search for pertinent data, and a capacity for developing relationships between facts. Imagination, a sensitivity to implications, and a positive reaction to subtle changes are mental qualities which must be applied to the problems of processing. Common sense and a practical realization of the pressing requirements of intelligence production are significant tempering factors.

Analysts can seldom live in worlds of their own. As integral personalities of the processing unit they must work in the full spirit of cooperation so that the intelligence product can be the result of the integration of varied points of view. Overall harmony of effort can come only out of individual adaptability to and consideration of the interests of coworkers. Self-restraint in spite of tension and stress can do much to assure orderly and effective activity when the time element imposes heavy pressures. Above all, the analyst must have a balanced point of view and a well-grounded sense of values; the processing unit is no place for the extremist. Finally, he must be convinced of the importance of intelligence production and clearly appreciate the relative significance of his own contribution.

The answer, then, to good processing is not merely organizational structure, important as organization and sound administration are for any group; rather, it is the quality of personnel who make up the structure. The simple fact is that the quality of intelligence produced is directly

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proportionate to the quality of the individuals who produce it.

TECHNIQUES AND AIDS

In connection with processing, two points should be re-emphasized. First, the transforming of information into intelligence requires a high degree of professional competency, judgment, and experience if the results are to be consistently worthwhile. Second, the functions of processing cannot be systematized into a series of assembly-line procedures. However, because of the quantities of information involved, various techniques and aids are commonly used by means of which information can be acquired, extracted, indexed, and compiled on a logical, systematic basis. These techniques and aids are of material assistance to the various functions of processing in more nearly assuring their completeness, accuracy, and timeliness.

The following techniques and aids can be helpful, although their utilization will vary according to the requirements of a particular analyst: liaison with sources, including records of performance; files and file controls; situation maps, charts, graphs, and statistical tables; and periodic digests.

The sources of an analyst's information are vital in connection with evaluation and further collection as required. Liaison with these sources may be accomplished by personal interview and by the written exchange of comments, suggestions, and analyses regarding information which has been transmitted. Any means by which the most cordial and sympathetic relationships can be established and maintained with the sources of information and with transmitting agencies will prove valuable. As has already been suggested, source identification and performance records, when it is possible to keep them, can be helpful both to the processor and to the collector.

Files

Card files are generally used by analysts for day-to-day working purposes. They are a practical means of recording extracted pertinent data from lengthy reports or more bulky written matter and for the easy assembling and arranging of relevant facts in whatever logical manner the topic under consideration suggests. On one card may

be listed the chronological developments of a particular topic, so that a current situation can be noted almost at a glance. A separate card for each source may be used for the recording of information received on the same topic, so that ready comparison can be made at any time. Card files permit the subdividing of subject matter into its smallest possible elements thus facilitating a number of the processing functions.

Reference files contain the correspondence, reports, and more bulky written matter from which card files are prepared. In the use of reference files, selectivity and good judgment on the part of the analyst are required. While the location of these files is not of major importance, it is imperative that their contents be readily available. Availability necessitates rigid controls.

Control of Files

The control system for any files depends in large part on their size; if small, they are usually organized on the basis of subject; if large, on the basis of numerical designations, supported by a card catalogue guide. When files are organized by subject, particularly in the case of intelligence card files, they are often subdivided according to names of individuals, organizations, places, situations, and trends.

Controls are greatly strengthened by the centralization of files and the most exacting cross-referencing of subject matter. When several separate units retain reference material indefinitely, the very fact of its existence may not remain known to all who have an interest in it, and its transfer from one unit to another may become haphazard or result in loss or at least uncertainty of location. Centralized control increases availability as well as security. Cross-referencing is a means of increasing the possibility of locating reference material, regardless of the way in which it is requested. For example, information about a person will logically be filed under his name. In addition, cross-reference cards or forms may be filed under his country of residence, occupation, military unit, or the incident or incidents in which he has been involved. In this manner, the analyst is likely to obtain all relevant information concerning the topic with which he is working. Also, pertinent data is less likely to be overlooked.

Filing systems are established for purposes of uniformity. They must meet the needs of the units they are designed to serve. For United States intelligence agencies, the Intelligence File Index, called IFI, has been created and is in use. It is a decimal filing system which includes a four-digit number for each basic element of subject matter and uses up to four decimal places for the additional subdivision of each element. For example, the 4000's are set aside for economic matters; within the 4000 block, the 4200's are used for fuels, metals and minerals; 4203 is petroleum; and 4203-0408 refers to the production of synthetic oil. When reports are received, the analyst is expected to attach a sheet on which he enters the appropriate IFI numbers. The report and attached sheet then go to the filing unit where all reports pertaining to the same subject are listed on a master control sheet, according to the assigned numbers.

Maintaining Files

Obviously, the maintaining of files will vary according to the size and location of an intelligence processing unit. Needs, working habits, and physical facilities are not uniform. A unit consisting of one officer and an enlisted man will of necessity vary its procedures from one which includes a larger group at the theater or departmental level. However, a carefully planned file system to meet the needs of the particular situation is required if intelligence production is to be carried out efficiently and effectively. The following practical suggestions will apply to a variety of conditions.

The basic purpose of files is the full utilization of available data. Reference files should group individual pieces of information under general topic headings. This may seem too obvious to require elaboration, but the fact remains that the average person does not know how to develop good files with adequate cross referencing, and every intelligence activity acquires extensive collections of facts and data. The intelligence officer must be able to locate precise information when it is needed. One requirement is the orderly arrangement of books in a reference library.

A logical way to proceed is to survey the physical facilities available in the form of file cabinets,

card files, map and chart cabinets, and safes in which to stow classified reports. Within the practical limits of time and space available, the intelligence officer should review the missions of his commander, particularly with respect to the geographical areas in which he is likely to operate, and then plan his files to meet his needs in a simple and logical manner. In order to be prepared for the great variety of requests for information that will be directed to him, he must review his filing needs with some imagination and insight.

Mere filing of information by an intelligence officer is not enough. He must be familiar with the contents of the file, and this can be attained only by occasional review. He should not put too much reliance on his ability to remember details with unfailing accuracy. The best of cross reference systems have their limitations. Either they tend to be incomplete or it takes too much time to compile them. Finding the right balance between cross indexing and an actual review of the whole file from time to time is a matter of experience.

The clerical chore of filing may be left to office assistants to a certain extent, but no intelligence officer can afford to develop such an executive complex that he is not intimately familiar not only with the filing plan he creates, but also with the actual filing that is done. An office that collapses in the absence of the filing yeoman has no place in intelligence activity.

The mechanics of filing also merit attention. Manila folders or large envelopes with clearly printed labels will prove most satisfactory. Dividers separating groups of folders or envelopes under more general topics are also helpful. When special logs, card files, or charts are compiled, they should be designed with real forethought to combine logical entry of information from source with maximum convenience in later use. Kardex files are frequently a help, and in large archives microfilms and film readers are a definite advantage.

Incoming publications and reports should be handled by a routine entry in a log with appropriate notation to indicate routing and final disposition. If a general subject index is maintained, the new card should be made out promptly and the file number marked on the material.

When material is loaned for outside use, normal military practice, in accordance with security reg-

ulations, requires custody cards and receipts. It is suggested, however, that a card or note inserted in the file itself will be an additional reminder of missing material to the individual using the files.

The intelligence officer should use his imagination and good sense in planning his files, remembering that orderliness and system pay very real dividends. In operational intelligence the use of special recording forms has been found to be advisable. These will be discussed in the chapter on Intelligence Staff Procedures.

Other Aids

Visual aids such as situation maps, charts, graphs, and statistical tables often provide the best means for comparing and interpreting certain types of information. Situation maps are adapted to the study of relationships between ship and troop location and movement, attacks, logistics supply, production facilities, and population distribution. The influence of geographic and time and space factors on a current situation may become more apparent as the result of the use of area maps on which appropriate information has been plotted. By such methods, enemy capabilities and limitations may be further clarified. Charts, graphs, and tables are of assistance in the compiling and comparing of information relating to economic and sociological intelligence.

Periodic digests may be prepared in order to summarize information for which the chronological sequence of events is important. They are also helpful in considering subject matter, such as political events, which requires more detailed data than could be easily included within a manageable series of cards.

Mechanical Brains and Punch Cards

New technological developments are effecting every type of warfare and even the processing of intelligence. Some involve the techniques of cybernetics, the use of so-called "mechanical brains." In simple forms, electric calculating machines are standard in most offices, and punch card tabulating and printing machines are used wherever statistical needs develop on a large scale. They produce raw census data, trade statistics, and many industrial records. In the military field they

are used for personnel records, accounting, inventory, and procurement purposes.

Since intelligence processing may involve the combination, matching, and tabulation of literally millions of quantitative facts, the punch card and the machines which use it are familiar to central offices such as ONI or large theater intelligence centers.

More recent is the rapid development of electronic machines of both analogue and digital types for solving involved problems. They are playing an important role in military research in ballistics, aerodynamics, and related fields, and operationally they do the computing required by modern guns in tracking targets and controlling fire. As these machines become physically smaller, additional uses will be found for them in the field. On an experimental basis they are already being used in solving problems of strategy. Intelligence agencies will have the responsibility of supplying quantitative data in the tremendous detail needed for meaningful results. The "mechanical brains" can take raw information on enemy capabilities and vulnerabilities, compare it with similar data on our own forces, and statistically produce the answers that will determine the best courses of action to pursue. They can measure in concrete terms whether we should concentrate on strategic air attacks on the enemy's basic industry, or whether our targets should be military installations, harbors, or merchant shipping. The machines can accomplish in minutes what men could do only in months, but the machine cannot give an answer better than the quality of the raw data fed into it. Therefore, the successful application of these advanced techniques will be in no small measure due to good information. An increasing number of intelligence officers must become aware of the potential services the "mechanical brains" can render.

OPERATIONS RESEARCH

A particular application of intelligence is in operations research which represents a blending of intelligence processing and intelligence use. The mechanical brains and punch cards, briefly described above, need a guiding set of principles if maximum results are to be obtained from them. Some of these principles are discussed in a work

by John von Neumann and Oskar Morgenstern, *Theory of Games and Economic Behavior*, first published in 1944. The theory of games has led to the development of mathematical theories of strategy under the exploitation of the three military services. This is not as strange as it seems, for the relationships in playing games, in business, and in war have certain similarities. The intelligence significance of these studies is apparent in the quotation: "Von Neumann's theory suggests that the seeking of information is central to the nature of strategy." (*Fortune* "A Theory of Strategy," June 1949 p. 104.) Military applications of these principles were begun by ASWORG (Anti-Submarine Warfare Operations Research Group) and have continued to be used in other problems. Some of the first naval applications involved the problems of the pilot of an ASW aircraft in choosing a tracking and search pattern to maximize the likelihood of locating the submarine.

Among the several agencies engaged in operations research, the most unique is the Rand Corporation. The story of its creation and function has been admirably told in an article by John McDonald entitled "The War of Wits", published in *Fortune* magazine, March 1951, portions of which are quoted below:

Rand is a creation of the United States Air Force. It is not, however, a government agency. It is an independent, non-profit organization, similar in some respects to a foundation but without exact precedent; and it has numerous consultants and subcontractors in universities and industries. Its principal business is long-range, scientific, military research, designed to aid Air Force decisions. Modern science and modern military art are joined here in a program of brainwork that may have considerable bearing on the security of the United States.

Mr. McDonald continues with an indication of the wide range of the Air Force problems being considered by the Rand Corporation: A-bomb defense, A-bomb delivery, tactical operations, and logistics. Many of these studies are significant not only to the Air Force, but also have the most vital implications for the entire defense establishment and the nation, since they have as a governing concept the preservation of national wealth and resources. Rand's view is that "the cheapest

way to win a war is not to have to fight one."

The staff of this remarkable organization is as varied as the tasks they undertake. It is composed of nuclear physicists, electronic experts, aircraft and guided missile experts, students of logistics, political scientists, economists, sociologists, psychologists, astronomers, and mathematicians.

Further quotations from the article cited above are equally informative:

Rand's social scientists are making a study of, among other things, Soviet Russia's interests, aims, and values, her political and social structure, and her probable scientific, technical, and industrial capabilities at various future dates; in sum, her total war potential—for the purpose in part of comparing these observations with the character and capabilities of the United States and its allies.

But the era has passed when the technological improvements of gadgets is the only scientific problem of warfare. Science and technology are continuously coming up with so many and such complicated military devices that even a nation as rich and advanced as the United States cannot afford, in terms of money, manpower, or available engineering effort, to develop all of them to their technical limits and produce them in significant numbers (this goes for the enemy too).

Given a budget the Air Force allocates its resources among various activities (offense, defense, tactical air, etc.) to perform its overall mission in the best possible way. But in the pursuit of this mission it does not choose the grand strategy; its own Strategic Air Command is responsible directly to the Joint Chiefs of Staff, and the button is on the desk of the Commander-in-Chief in Blair House. (This was written during renovation of the White House.) It cannot always choose its targets (as between, say, military installations, industry, and cities); nor its weapons, for weapons, too, are political. This was true even before the decision to drop the first A-bomb, and has been even more decisively the case since then. Similarly the Air Force has to consider the intentions as well as the capabilities of an enemy, since intentions affect the determination of when he will use what, and the question whether he will use certain capabilities at all.

Rand, therefore, studies the social and political framework in which the big strategical decisions are made, along with the more strictly scientific agenda. The bulk of its work, however, is concerned with the allocation of resources. . . .

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In the Rand analysis the target's resistance is defined by bracketing the enemy's expected capabilities at a specific time era in the future. The order of attack is set up against the enemy's assumed order of battle. The enemy's deployment is an intelligence problem. The enemy is assumed to be rational, with no holes left uncovered in his apportionment of defenses to targets—the "no soft spot" theory, which is derived from the von Neumann-Morgenstern theory of games. Rand mathematicians have extended the development of game theory as a new and challenging doctrine of military decision. From the solution of this first relatively simple bomber problem emerged Rand's principal research technique known in the shop as "systems analysis."

There is more to offense and defense systems, however, than allocation of resources and specifications of weapons. The payoff of a strategic bombing force is what the bombs do to an enemy—particularly the will and ability to wage war, through physical, economic, political, and psychological effects. Strategic bombing, for example, has a strong influence on the attitude of enemy populations—equal perhaps to the impact of our war aims. What then should be our policy on enemy people and their leaders? Should we undertake a warning system for enemy populations? What does a 90 percent target knockout mean in terms of productivity? Facts gathered by intelligence agencies are not of much use without a guiding concept with which to separate the relevant from the irrelevant. Designers of bombing systems thus have to take into account social problems along with the physical problems presented by nature.

With such broad and varied questions in mind, Rand studies Soviet Russia, her intentions and capabilities. It is common knowledge that the United States industrial and general war potential is superior to Soviet Russia's at this time. But are they catching up? Does the Politburo have freedom of choice, flexibility, random behavior? What is its pattern of political behavior? How does the ordinary Communist have to think to translate doctrine into action? When attack? When retreat? When sound hostile? When friendly? One of Rand's contributions is a codification of principles of action underlying the Politburo's calculations, made as a step toward predicting what it is likely to do.

This type of operations research, then, is just a variation on intelligence processing in general,

though brought to a high level of achievement for the specialized tasks assigned to the Corporation.

CONTRACT STUDIES: THE FLYING SAUCER

Rand Corporation is only one of many private agencies that perform specialized studies for the armed forces. Large contracts in many fields of investigation have been made by all three services, though by no means do all relate so directly to intelligence matters. One particular project which illustrates many of the problems of processing, and which also involved contracts for analysis by a number of outside agencies, was the well publicized flying saucer mystery. Kenneth Arnold on 24 June 1947, claimed to have seen some mysterious disks cavorting over the Cascade Mountains. Within a few days saucer reports poured over the news wires from all parts of the country. Witnesses in time included military pilots, weather observers, police, astronomers, and many ordinary citizens. That summer there were many wild rumors and quite contradictory reports on the saucers. Despite all official denials the belief persisted that the saucers were real, whoever controlled them.

On 7 January 1948, at Godman Field, Ky., a mysterious object was sighted in the sky by control tower personnel. Captain Thomas Mantell who was in the air in an F-51 gave chase, and the remains of his plane were found crashed to earth. On 22 January 1948, the Air Force set up a research project on these sightings at the Air Materiel Command, Wright Field. Astrophysicist Joseph Hynek, and the Rand Corporation among others, went to work to study the reports.

Eastern Air Lines pilots, Clarence S. Chiles and John B. Whitted, flying a DC3 on 23 July 1948, west of Montgomery, Alabama, had a brief look at a mysterious wingless, cigar-shaped craft which had two rows of blue glowing ports and an orange-red flame projecting from the tail.

On 1 October 1948, Lieut. George Gorman at Fargo, N. Dak., chased a mysterious maneuverable light in his F-51. These gyrations of plane and light were watched from the ground.

Another of the more interesting cases was that made public on his own responsibility by Comdr. R. B. McLaughlin of the White Sands Proving

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Ground. His report of a sighting on 6 April 1948, claimed a saucer 105 feet in diameter some 56 miles up had been tracked by theodolites at 18,000 miles per hour. There were also 2 smaller objects about 20 inches in diameter that maneuvered around a fast-moving Navy missile, then passed it and disappeared.

In 1950, 1951, and 1952, there were additional flurries of reports. An Air Force release in 1949 admitted that 375 sightings had been investigated up to that time. The count by more recent estimates is not available.

What evaluation can be made of all these reports? The first step was to interview those who thought they had observed saucers in order to sort the first hand reports from rumors and distorted accounts. The observations were then analyzed to discover any patterns of similarity. Agencies responsible for operations that might be confused with saucers reviewed all cases to eliminate easily accounted for phenomena. The contract groups and other agencies reviewed all remaining cases to see whether natural phenomena, astronomical or meteorological, or subjective reporting could account for what was seen.

Large numbers of sightings could be explained as weather balloons, Navy cosmic ray research balloons, meteors and fireballs, lightning, light reflected from distant aircraft, and occasionally as the planet Venus. Some cases were a result of hallucination, hoax, or hysteria. To some analysts there seemed to remain a hard core for which no

definite cause could be assigned positively, although plausible explanations could be offered. Certain deductions could also be offered. If there were real saucers and they represented a secret weapon of either the United States or Russia, they were exposed to possible compromise by appearing in so many parts of the world with reckless disregard for safety of cities, normal air traffic, or security measures. Further, their reported speeds and turning ability would indicate new propulsion and guidance systems far superior to those all world powers are spending billions to develop. Could they be from outer space? Although that possibility does exist, certain probabilities must be considered. Only Mars offers prospects of life similar to that on Earth and its rarified atmosphere and extremes of temperature would seem to militate against an environment that allows the development of higher life forms. Other stars may be postulated to have planets, but the immense distances would reduce statistically the chance of our being visited. If a superior civilization were spying out the earth, it would be odd that it would disclose its presence so many times without making contact.

The flying saucer mystery must be left for the present as one of those tantalizing enigmas of life that will be discussed for a long time to come. This brief account by no means answers the many questions about the saucers, but it does illustrate the many possibilities for evaluation and analysis of this type of information.

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CHAPTER 11

THE INTELLIGENCE CYCLE: DISSEMINATION

Dissemination is an essential phase of intelligence activity. Every officer who receives intelligence matter and passes it on, either for further processing or for the immediate use of strategic planners and operational commanders, participates in its operation. It is continuous throughout the life of any essential element of information, beginning when the collector forwards his report, moving up, down, and laterally in a chain of command or processing agency, and coming to rest only after use by each recipient for whom it has value.

Two critical factors in the dissemination phase of the cycle are: First, the selection of the appropriate action agency and other interested agencies which should receive the intelligence product; and second, the speed with which the product is transmitted, as conditioned by requirements of urgency and security.

There is no greater handicap to the intelligence function than inadequate dissemination. Intelligence material should never be relegated to an inactive file until it has been seen by all to whom it may be of conceivable interest. The officer responsible for routing has the initial responsibility of designating action, information, and retention addressees, but as the material passes from person to person, in accordance with the security regulations governing its distribution, the responsibility is shared by each recipient.

The time interval between the interpretation of information and its receipt by the potential user may, in itself, determine the worthwhileness of the total effort of intelligence production. Even more, this factor of time may have a direct and vital bearing on matters affecting the security and welfare of the United States.

The dissemination responsibilities of the intelligence officer are therefore concentrated in the exercise of judgment in determining *who* needs to know, *how soon* he should know, and *by what means* and *in what form* it should reach him in order to be most usable. These questions constitute the problems of dissemination.

DETERMINATION OF RECIPIENT

Effective dissemination requires not only a complete awareness of the significance of the information or intelligence, but also a knowledge of the specific mission of organizational units. On a small staff the intelligence officer is well aware of the commander's mission and the plan of operations, and is also cognizant of incoming information, the processing required to convert it to usable intelligence, and the particular needs of each staff planner and unit commander. Dissemination in such a situation is much easier than on larger staffs, such as that of a theater command, an intelligence center, or in the Office of Naval Intelligence. In large organizations the responsibility for dissemination should rest with the officer supervising evaluation and interpretation, for he first becomes aware of the finished product.

Check Lists

Check lists of commands normally receiving each type of intelligence are indispensable aids in effecting complete dissemination. The lists should be flexible; that is, by frequent revision they should be expanded or reduced as changes in situation demand. Thus they are always kept up to date, and commands will not continue to receive intelligence for which they no longer have need or on subjects in which they have no further interest.

Operational Dissemination

The tremendous dissemination task of an intelligence unit preceding an amphibious operation is well illustrated by the activities of the intelligence officers attached to ComPhibsPac, Commander of the Joint Expeditionary Force which was to land on Okinawa in April 1945.

A preliminary distribution of basic information, consisting of terrain studies, maps, charts, beach sketches, identification sheets, and miscellaneous bulletins, was made to all staffs and ships involved in the operation 4 months before it was to take place. This material, the product of months of

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research and additional collection, contained most of the accumulated strategic intelligence received up to that time, and was intended to assist the intelligence officers of the various staffs and ships in preparing their individual intelligence estimates, and to be used for background information in the acquiring of additional intelligence.

The final distribution of intelligence material from the ComPhibsPac Intelligence Section was forwarded from Pearl Harbor on 23 February 1945, and included all intelligence developed from the sources described previously. This distribution was a difficult problem. It was essential that every vessel engaged in the Okinawa operation, and those that might possibly become involved, receive an adequate supply of maps, charts, photos, and all other prepared written matter. These included not only the strictly amphibious vessels but all the gunfire support ships, the components of the carrier task forces, and other vessels that might be designated to assist in bombardment or transport of troops as reinforcements. The assigned vessels were staged at seven different bases throughout the Western Pacific and some were almost constantly at sea. Experience had clearly demonstrated that distribution by the echelon system was unsatisfactory, for many ships had complained of not receiving packages or of having received them months after they were mailed. Therefore, arrangements were made to fly the material by special R5D planes to the various staging areas. One intelligence officer from the ComPhibsPac personally made the distribution at each staging area. He had complete lists of the ships and staffs involved, was in constant touch with ComPhibsPac, and thus was able to make corrections as changes took place. The officer was also supplied with a number of additional packages for distribution to ships which might be assigned at a later date. This system operated satisfactorily, although there were approximately 1,340 vessels and staffs engaged in the operation. All commands received an adequate supply of intelligence material.

With proper security provisions and detailed instructions, copies were forwarded to port directors, island commanders, and a few other important commands for possible later distribution to reserve units and ships assigned at the last moment

because of unforeseen emergencies. A large supply of extra copies was furnished to the amphibious group intelligence officers for emergency distribution. Previous experience had indicated that there always were unforeseen requests for intelligence material, and these emergency measures enabled all participating units to obtain the needed intelligence regardless of the date or location when they received orders to proceed to the objective.

TIMELINESS

Timeliness in distribution of information and intelligence is vital to the efficient functioning of every intelligence agency. Its attainment, of course, will be controlled to a certain degree by the means of dissemination available and the security classification of the subject matter. Naval Regulations stipulate that telecommunications should never be used when mail and messenger services will serve the purpose. The spirit of this general rule can be followed in the dissemination of intelligence, for certainly all intelligence material is not of sufficient urgency to require transmission by radio, and often its length or bulk precludes the use of such means. Discrimination and judgment must therefore be applied by the intelligence officer in all matters affecting the speed of dissemination. He needs a working knowledge of the naval communications system.

Often the collector in both foreign and domestic fields will not have United States naval communication facilities available. In such circumstances his knowledge of other means available should be equally thorough. An attaché, for example, should know the best procedures for forwarding all types of reports, including commercial radio and telegraph, postal services, and the schedules of State Department couriers. Classified information, of course, is never entrusted to foreign mail systems, but commercial radio in foreign countries may be used for the transmission of encrypted messages.

Naval Telecommunications for Dissemination

An intelligence officer with the Fleet will receive and disseminate a great portion of his intelligence material by radio. He must understand the delivery characteristics of each type of communications and the effect of the various degrees of pre-

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cedence. The communications channel used must be suitable for reaching the addressees within the time required and in accordance with security regulations governing the handling of the subject matter of the message. In all such matters, of course, the expert advice of the communications officer should be solicited and his recommendations followed.

For any given operation, the Communications Plan, usually an annex to the Operation Plan or Order, allocates radio frequencies in accordance with fleet frequency plans. Frequencies are allocated for particular uses; for example, there will be one or more for reporting enemy contacts, for shore fire-control parties, for CAP aircraft, etc. The Communications Plan also prescribes controlling publications, effective date and time zones, crypto-systems to be used, and the procedures for radio telephone messages, visual communications, recognition, identification and authenticity, radio and radar countermeasures and deception, and the conditions of radio and radar silence.

Message Precedence

Once the intelligence officer is convinced that a particular item of intelligence must be transmitted by radio message, he must also decide which degree of precedence is required. Precedence establishes the order for the handling and delivery of messages. It should be determined by the subject matter and the time factor involved. There are currently six degrees of precedence:

- (1) FLASH is reserved for enemy contact reports or reports designed to prevent imminent conflict between friendly forces.
- (2) EMERGENCY is used for amplifying reports and operational messages of high priority; e. g., attack orders, warnings of enemy attack.
- (3) OPERATIONAL IMMEDIATE is used for operational messages, i. e., those that will or may affect movements of ships, aircraft or ground forces within 48 hours, except ordinary movement reports which cannot be classified as urgent; e. g., Operation Orders, aircraft movement reports, changes in tactical disposition.
- (4) PRIORITY is the highest precedence that can be given to administrative (non-operational)

traffic; e. g., troop or ship movements (non-tactical), flight plans, movement of supplies.

(5) ROUTINE.

(6) DEFERRED means that delivery can be delayed until the beginning of office hours following the day when filed.

To specify high precedence when a lower degree is sufficient destroys the value of precedence, tends to demoralize communications, and frequently delays messages of great urgency. In one case during World War II an operational priority message from COMINCH to the commander of a task force in the Atlantic was delayed 6½ hours and finally was received too late to serve its purpose. Investigation revealed that there had been 110 other operational priority messages waiting to be transmitted on the Fox schedule that afternoon. Scarcely a dozen were of sufficient urgency to justify the precedence which they carried.

An Army experience further illustrates the extremes to which misuse of precedence can go. A staff headquarters received a priority message addressed to two officers who could not be located, so a message was sent to the originator requesting instructions for delivery. The reply explained: "The two officers are on their way and will arrive in a couple of days."

High precedence is not necessarily the best way to get prompt action. Precedence is a guide for communications personnel, not for addressees. It is better to ask in the text for prompt action rather than to use precedence in such a way as to delay messages of greater urgency.

Reproduction

The timely dissemination of certain types of intelligence material to multiple addresses will often depend on the facilities an intelligence agency has available for reproducing it in quantity. Such requirements should be anticipated, and the agency should provide itself with the necessary reproduction machines together with personnel trained in their operation. Mimeographs, multi-liths, or contact printers are indispensable aids in intelligence centers, and even small units in the field will find frequent use of portable machines of this type.

CLASSIFICATION

A discussion of adequate and timely dissemination cannot proceed very far before meeting the problem of classification. Although marking classified information and material Top Secret, Secret, or Confidential, will insure safeguarding consistent with its content, the misapplication of classification can also be a definite handicap to proper dissemination. It will be well here to review the principles of classification as set forth in the *United States Navy Security Manual for Classified Matter* particularly in respect to their application in intelligence activity.

Top Secret

In the Top Secret category, the security aspect is paramount, and unauthorized disclosure could cause *exceptionally grave damage* to the nation, such as initiation of war against the United States by a foreign government, defeat of planned war operations, and loss of a scientific or technical advantage which would materially affect the course or outcome of a war.

The following items of military information are hence graded Top Secret:

1. War plans and plans or particulars of future major or special war operations, and related dispositions of our forces.
2. Intelligence documents (and information therein) which reveal a major intelligence effort on the part of the United States and from which unauthorized recipients would be able to evaluate the capabilities of our intelligence services.
3. Critical information of radically new and extremely important equipment or other munitions of war.
4. Information primarily political or economic which contains implications comparable to items 1, 2, and 3.

Secret

Classified as Secret are information and material whose unauthorized disclosure could result in serious damage to the nation, injure national interests or prestige, or would be of great advantage to a foreign nation.

The following items are examples:

1. Particulars of operations in progress or planned.

2. Instructions regarding the employment of important new munitions of war, including scientific and technical developments.
3. Important improvements to existing munitions of war under development.
4. Information of enemy or potential enemy material or other material, procedure, dispositions, and activities, whose value depends upon concealing the fact that we possess it.
5. Reports of operations containing information of vital interest to the enemy.
6. Vital military information on important defenses.
7. Adverse reports on general morale affecting major operations.
8. Communications intelligence information, including security devices.
9. Certain new or specialized techniques or methods to be used in future operations, and the identity and composition of units which will employ them.
10. Information concerning strength of troops, air and naval forces, identity and composition of units, or quantity of specific items of equipment in active theaters of operation.
11. Photographs, negatives, photostats, diagrams, or models of Secret matter.
12. Certain compilations of data or items which in the aggregate warrant the higher classification, although individual items may be classified Confidential or lower.

Confidential

The Confidential category is used for information or material the unauthorized disclosure of which could be *prejudicial* to the defense interests of the nation.

Examples include:

1. Matters, investigations, and documents of a counterintelligence nature, or matters whose disclosure would adversely affect morale.
2. Routine operational and battle reports which contain information of value to the enemy but are not of vital interest to him.
3. Routine intelligence reports.
4. Military radio frequency allocations of special significance, or those which are frequently changed for security reasons.

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5. Information which indicates strength, identity, composition, or quantity of equipment of troops, air and naval forces in areas adjacent to active theaters of operations.
6. Technical documents and manuals used for training, maintenance, and inspection of important new munitions of war, and the general tactical lessons learned in operations which should be withheld from any foreign nation.
7. Information relating to the design and development of new material, research or processes of manufacture of military significance which are not generally known.
8. Department of Defense information and records concerning industrial mobilization for war, including specific quantities of war reserves.
9. Photographs, negatives, photostats, diagrams, or models of Confidential matter.
10. Certain compilations of data or items which in the aggregate warrant the higher classification, although individually of lower classification.

Restricted Category Abolished

In accordance with the directives set forth in Executive Order No. 10501 effective 15 Dec 1953 the category "Restricted Security Information" and the phrase "Security Information" previously required in connection with the categories listed above were eliminated. This order further provided that all Department of Defense information designated "Restricted Security Information" would be automatically declassified except in certain instances where it was felt necessary to upgrade to Confidential. For example information from foreign friendly governments and classified *Restricted* by those governments is now upgraded to Confidential. The same is true of material related to Crypto systems.

"Restricted Data" as used by the Atomic Energy Commission was not affected by Executive Order #10501.

The Disseminator's Classification Responsibilities

Intelligence personnel responsible for dissemination must keep the definitions of the various categories of classification clearly in mind, esti-

imating the threat to national security if the information should reach an enemy. Erring on the safe side is out of the question, because neither side is perfectly safe. Overclassification is one of the surest ways to undermine security, as was well illustrated in the Pacific during World War II. At one time 90 percent of message traffic was marked Secret. It was impossible to observe the precautions required for its handling, since so many people had to work with Secret messages. The number of copies exceeded all reasonable limits, and subject content was widely discussed. The inevitable result was that Confidential and Restricted messages were treated almost as if they were unclassified.

A second result of overclassification is that the key setup used for Secret messages becomes overloaded, thus endangering the security of both the key and the system. A third consequence is the delay in dissemination caused by the time required for encryption, decryption, and maintenance of the receipt system.

Among the kinds of information commonly overclassified during the war were intelligence summaries of past action and messages about ship movements in nonoperational theaters. Confidential, as noted in the definition above, is sufficient for routine intelligence reports. No gain in crypto-security is achieved by using a higher classification than the content of the message warrants. The prime purpose of high classification is to limit the number of persons who may see the messages or reports and to increase the physical safeguards with which they are surrounded. The disseminator must determine the number of persons who must have the information.

Underclassification, of course, endangers security. During the war, messages which identified fleet commands or shore-based activities were sometimes delivered unclassified to the communication office. Unclassified reports and requisitions sent to navy yards by ships of the fleet at times disclosed their location and prospective movements.

In combat situations emergencies arise when speed of dissemination requires plain language. Such a situation occurred during the North African campaign, as recounted in the battle report of the U. S. S. *Massachusetts*. One of the spotting planes from the flagship off Casablanca encountered "bandits" and signalled over voice radio:

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"Am coming in on the starboard bow with couple hostile aircraft on my tail. Pick 'em off—I am the one in front!"

DISSEMINATION MEDIA

Thus far the only dissemination medium discussed has been telecommunications. A number of others are equally common to intelligence activity, such as oral briefings, graphics, films, books and periodic publications, not to mention the informal conferences that are daily occurrences in any intelligence agency. Each has its particular advantages and disadvantages in special circumstances.

Oral Dissemination

Intelligence is disseminated orally by means of lectures, briefings, conferences, and ship's telephone or radio conversations. Public telephones ashore, of course, are never used for intelligence communication. Except in a formalized situation or classroom, lectures are not ideal means of disseminating intelligence. Retention of subject matter, presented in lecture form, is difficult without reference to comprehensive notes, and the lack of a lecture room and difficulties of assembling all who need to know combine to make the lecture method unsuitable in commands afloat.

Briefing, a specialized form of lecture, is one of the most common types of oral dissemination of intelligence. It will be discussed in detail below.

The staff conference, in which the intelligence officer participates, provides an excellent means of disseminating intelligence. If conducted in a spirit of open-mindedness, free from petty prejudice, bias, or predetermined conclusion, the conference discussion results in resolution of conflicting bits and fragments of information. Panel discussions, followed by open forum question periods, are also effective methods of dissemination.

Under actual combat conditions, or in maneuvers and training exercises, communication by voice, radio, or telephone is used. For quick dissemination of intelligence to pilots awaiting final instructions from an Air Intelligence Officer, communication by a telephone system from intelligence control to ready room, is often more expedient than the personal appearance of the briefing officer. The principles and practices that have

been developed in ships' battle phone systems furnish a good background for intelligence dissemination by telephone.

Whatever form oral dissemination takes, it is essentially a more or less prepared speech delivered to an audience, and it is subject to the general rules for effective public speaking.

Briefing for Dissemination

An officer planning an oral briefing is under the same obligation to organize his material logically, present it coherently and fluently, and emphasize his main points unmistakably, as the preacher, the politician, the professor, or the salesman.

The sages of old said that man's greatest enemy is time. A pertinent paraphrase would be: time is the briefing officer's greatest enemy. We have all been irritated by the speaker who begins by deploring the fact that so little time is available for an adequate presentation of his subject and then proceeds to use 90% of what time is available in undue attention to unnecessary and often irrelevant details. The intelligence officer will always face a time limitation on his briefing. It is his greatest challenge. Careful organization is the key to success. In an 8-minute briefing, the time allocation for a well organized presentation should be about as follows:

Introduction: 2 minutes.

Rapport is established with the audience, the purpose is clearly stated, and necessary background information is given.

Main Body: 5 minutes.

The fewer main points the better. Certainly in 5 minutes no more than 3 can be adequately covered. Transition from one to another should be smooth and logical. This is the portion of the briefing in which graphics are effective time savers. Organization is the watch-word.

Conclusion: 1 minute.

Every briefing should close with a succinct summary or interpretation of the points in the main body, thus leaving the audience with the definite impression that the speaker's purpose has been achieved.

A colored preacher when queried as to the reason for his effective sermons summed all this up very neatly: "First I tells 'em what I's gonna tell 'em, den I tells 'em, den I tells 'em what I told 'em."

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Practice and receptivity to criticism are the best aids to effective speaking. The avoidance of distracting mannerisms, and the cultivation of an easy, simple, straightforward, and confident style are essential. Every naval officer ought to be able to speak well. To the intelligence officer it is a functional asset.

Graphics for Dissemination

Dissemination through the use of graphic illustration achieves its purposes by the precept of the old adage: "A good picture is worth a thousand words." Although illustrations have been used for centuries, and maps and charts are as old as the art of warfare, new impetus was given to the use of graphic aids during World War II. In addition to printed and written representations, the term "graphics" has come to include three dimensional figures such as models of ships, aircraft, terrain, cutaway sections, animated figures, and life-size mock-ups. Plots, photographs, motion pictures, maps, charts, sketches, drawings, posters, statistical graphs, and numerical tables are additional standard military applications of graphic dissemination media. Their success results from the fact that each is adapted to a particular situation.

Clarity in graphic presentation will be achieved if it is unified in purpose, consistent and unmistakable in use of symbols, and legible in details. Its force and attractiveness will depend, like its clarity, on adherence to fundamental principles of effective design.

Nothing contributes more to the clarity of any graphic presentation than unity of purpose. Intelligence charts should be prepared for a specific purpose; every item of information useful for this purpose should appear, and all other items should be suppressed. A chart that shows harbor installations should not be unnecessarily cluttered with notations of irrelevant buildings and topographic details; a target folder designed for use by bombing squadrons is not usually improved by including elaborate hydrographic data.

In military graphic presentation, symbols are of the utmost importance. The intelligence officer spends considerable time working with plots and maps and charts; he should be thoroughly familiar with the technical vocabulary of this kind

of graphic expression, and should be careful always to employ the accepted military and naval symbols so that any trained person can read his plot or overlay at a glance. Every chart for dissemination should have a key to the symbols employed, readily legible in the margin. Naval officers should familiarize themselves with the symbol manuals: FM 21-30 and AFM 55-3.

Graphics, like any other form of dissemination, should be convincing and attractive as well as clear. Emphasis is achieved by bold lettering, strong, solid outlines, and by the use of simple and strongly contrasted colors for the different items of information plotted. Attractiveness is increased by variegated and properly proportioned lettering and by the choice of harmonious colors. A common fault is trying to put too much on a single graphic; it is usually better to use several, rather than to clutter up one.

When the graphic is to be projected on a screen as a "slide," the added factors of legibility at a distance and the adequacy of available equipment must be considered. The intelligence officer cannot usually control the conditions under which motion pictures are made, but he can control the conditions under which they are shown, and he should make these conditions as favorable as possible.

Preparation for Graphics

It is not practical here to discuss all the possible methods of preparing graphics in intelligence work, but a few suggestions regarding certain materials that have proved effective can well be made. Common tools are pictorial symbols made by colored pencils, colored pins, colored string, colored scotch tape, and various types of transparent materials.

Cellulose "Scotch" tape, both the transparent type and the colored, is very useful in graphic presentations. The colored type can be employed for border and area demarcations on a map or overlay, for bar graphs, and for artistic line borders of the entire graphic. The tape is manufactured in a great variety of colors, blue, red, black, green, orange, yellow, purple, silver, and brown. The rolls come in several widths, but experience has shown the most practical for graphic purposes to be $\frac{1}{2}$ ", $\frac{3}{4}$ " and $1\frac{1}{2}$ ".

"Scotch" double-coated tissue tape, being adhesive on both sides, facilitates the use of movable symbols on a changing situation plot. Masking tape can be used in the construction of portable (folding) plots, or for joining together several graphics into a composite whole.

In order to avoid markings on the face of maps and charts that are being used for either briefings or graphic displays, clear transparent cellulose acetate overlays may be used. Usually, such acetate film comes in rolls 40" wide, and 100' long.

China-marking (grease) pencils, in a variety of colors, are particularly appropriate for graphics, especially when used on a cellulose acetate overlay for depicting changing situations. The tracings can be easily removed with a dry cloth if made on the glossy side of the sheet.

Illustration boards, both of heavy paper and light cardboard, have many uses, such as making formal graphics requiring good white background, or for map or chart backing. The "boards" are 1/8" thick and usually come in two sizes, 30" x 40" and 38" x 60".

Such items as thumb tacks, a pencil compass, erasers, photointerpretation scales, a protractor, speedball lettering pens, a knife or a pair of scissors, and various colored inks are additional items of equipment for the preparation of good graphics. Most of these are readily available at Navy supply centers or depots.

If graphic production is very extensive, time will be saved by employing a Leroy lettering set. With such a set it is possible to give graphics a professional appearance.

Inasmuch as requirements differ, it is difficult to make recommendations as to the quantities of materials or equipment needed. Operational staffs will need a lot; attachés will need very little. The intelligence officer must try to anticipate his needs, and particularly if afloat, should procure a good supply of basic materials from any supply depot where they are available.

FORM OF DISSEMINATION

Disseminated intelligence should always reach its potential consumer in usable form. There should be no doubt as to its meaning. The previous discussion of reporting showed that the format and guiding principles of accuracy, brev-

ity, and clarity in the preparation of the standard Information Report are designed for the user's benefit. Let us extend that discussion here by considering the drafting of messages. The principles set forth are again those of unity, completeness, coherence, and emphasis with special attention to economy in the use of words.

Unity and Completeness

Intelligence messages, just as information reports, are most easily handled by the recipient if they deal with single rather than multiple subjects. Filing is facilitated if all pertinent intelligence on a certain matter is included in one message. A message which does not give all the necessary facts may be little better than no message at all, especially in a combat situation. A contact report which omits the number, types, position, course, or time of sighting (the time group of the message) is better than no report, but each of these facts is needed to carry out an attack.

During 1943 an enemy submarine was able to sink one of our ships and escape from American waters because of incomplete messages and failure to send messages. The submarine might have been destroyed before it could do damage had any one of the following errors not occurred:

1. A plane reported rescue of survivors, but failed to give time of attack, position of the attack, the course of the sub, or its condition.

2. Another plane neglected to make an amplifying report, and wasted time asking a question to which it should have known the answer.

3. A third plane failed to give the sub's position and did not communicate with a plane which was in a position to assist. It also failed to make amplifying reports promptly, in sufficient detail, and in plain language instead of code. Speed was vital, and the information was of little value to the enemy.

Coherence

Ambiguity of expression in a message is not only valueless but dangerous. Misunderstood intelligence can lead to catastrophe. During the final month of the war in the Pacific, a task group made radar contact with an unidentified submarine. All efforts at recognition failed for visibility was poor, but the submarine gave indications of being hostile. At this point one of the destroyers in

the task group received a message from the task group commander which was understood to state: **CLOSE TARGET EVALUATION IS ENEMY ATTACK AND DESTROY.** The destroyer attacked and the target disappeared. Later it was discovered that the sub was one of our own. What the message actually said was: **CLOSE TARGET AND IF EVALUATION IS ENEMY DESTROY IT.**

Brevity

Both the speed and security of naval communications are in the hands of originators to a far greater extent than many realize. The originator who uses 50 words to express what could be clearly stated in 25 causes, in the aggregate, not hours but days of unnecessary work along the entire route of an encrypted message. He also damages security, for the amount of material available to enemy crypto-analysts is doubled.

There are several ways to reduce the length of a message:

1. Eliminate nonessential details.
2. Remove superfluous words, such as "number," "following," and "dated," for example, instead of "FOLLOWING ITEMS NEEDED COLON" say "NEED," which represents an 85% word saving. A submarine on patrol in the eastern Mediterranean transmitted a radio message in which the words "north" and "east" were used 18 times in giving positions. All 18 words could have been omitted, for there is no south latitude in the Mediterranean, and west longitude is confined to a far western portion.
3. Use briefer words and phrases. The length of many messages can be reduced as much as 40-50% by consistently using the simpler and briefer of two expressions that are equally clear. The following are typical:

<i>Instead of</i>	<i>Use</i>	<i>Save</i>
attempt-----	try-----	57 %
immediately-----	at once-----	45 %
approximately twenty-----	about twenty-----	42 %
immediate future-----	soon-----	73 %

A simple way of saving words in a message is by putting verbs in the active rather than the passive voice. Prepositions can often be eliminated with no sacrifice of meaning.

4. Use authorized abbreviations to a greater extent and avoid excessive use of phonetic spelling.
5. Delete unnecessary punctuation. The use of the simple "X" will normally be equally clear.

Message Drafting in Practice

Let us now apply some of the above principles in an imaginary situation and follow the procedures of an intelligence officer in his role of disseminator.

The setting is Calcutta, India, early in World War II. An allied intelligence activity of the CBI theater has a competent Burmese undercover agent in Japanese occupied Rangoon who reports twice a week on enemy activities on the waterfront. The information thus obtained is promptly forwarded by encrypted message to the A-2 of the 10th Air Force at a base in Chabua, Assam, for possible use in selecting targets for strategic bombing missions. In a report dated 18 March, the Rangoon agent states that 2 days ago he saw a large number of vehicles and great quantities of supplies for the Japanese forces in Burma unloaded from ships and stored in warehouses along the Irrawaddy River. This is interesting to be sure, but in its present form it does not constitute valuable target information because of its lack of detail. Supplies are continually arriving in Rangoon and are normally stored in warehouses along the Irrawaddy at a great number of widely scattered locations. So first of all the Calcutta intelligence unit requests the Rangoon agent to obtain more specific data. In a few days an amplifying report is received, and on the basis of this additional information the officer responsible for dissemination of target intelligence writes the first draft of a message to A-2, Chabua:

"Following information received from usually reliable agent resident Rangoon: Japanese war materials stored in warehouses adjoining former docks of Burma Shell Oil Co. include 80-85 heavy trucks, 23 sedans, 3,000 tons shells and cartridges, and approximately 10,000 tons of food and clothing for Japanese troops."

The report now contains detailed target information. He proceeds to examine his first draft with a view to condensation. A-2, Chabua, has

prepared a large scale gridded map of Rangoon and has provided the Calcutta unit with a copy for use in target designation. Therefore the specific location can be given by map reference as had been done in similar messages in the past. Consulting the map, the Calcutta officer finds that he can pinpoint the Burma Shell warehouses at 8237N4. So he makes further improvements:

"Usually reliable agent Rangoon reports warehouses located eighty two thirty seven Nan four contain colon three thousand tons ammunition comma ten thousand tons quartermaster supplies comma approximately one hundred vehicles period"

Once again he studies the text for possible further economy of words. His colleagues in the code-room are always complaining about the chore of encrypting messages which are unnecessarily long, so he makes every effort to satisfy them.

All Allied intelligence activities have been using the standard letter-number evaluation code, and A-2, Chabua, knows from past experience that Calcutta receives reports from agents in Rangoon whose reliability and reporting accuracy have been well established by past performance. A-2 will, however, want to know the date the information was collected, in order to check it with other information he may have, or it may well be that, unknown to Calcutta, bombers of the 10th Air Force hit the same dock area on a mission within the last 24 hours. Furthermore, A-2 will consult his map and note that the grid location is that of warehouses. So after some more amending, abbreviating, and deleting the final draft of the message text reads:

RANGOON ONE SIX MAR BAKER TWO
X EIGHT TWO THREE SEVEN NAN
FOUR X THREE THOU TONS AMMO X
TEN THOU TONS QM SUPPLIES X
ABOUT ONE HUN VEHICLES.

He takes it to the code-room. "Here, Joe, is one that will please you. Make it 'Operational Immediate.'"

Thus by careful drafting the disseminator sends a message that is complete, accurate, coherent, and economical in words and encryption time. A-2, Chabua, has usable intelligence for the commander of his B-24 squadron.

USE OF INTELLIGENCE

The example above is illustrative of more than message drafting. It also follows an item of information through the steps of the Intelligence Cycle. Collection was not complete until adequate coverage was attained, and some of the mental gymnastics of processing were apparent as the officer kept reworking his draft into proper form for dissemination.

The use of the finished product is, of course, the responsibility of the squadron commander in Chabua. The decision to make a strike against the Rangoon warehouses rests with him alone. Therefore, it would seem that the intelligence officer's functions stop with dissemination. In a larger sense, however, this is not true. Certainly A-2 does not make the command decision, but he plays a most important role in *influencing* the decision through the quality of the intelligence he provides. The very form in which it reaches the potential user, and the timeliness achieved through proper designation of precedence are vital factors in use.

Intelligence officers do not perform their duties in support of command by sitting aloof in their own little worlds. They are on a staff team, and operational commanders as well as strategic planners make their decisions during or after conferences with staff officers who are experts on the various aspects of the tasks under consideration. This puts the intelligence officer very much in the picture when decisions are made, and working intimately with his staff colleagues, he contributes support in his particular sphere of responsibility: knowledge of the enemy and the characteristics of the area of operations. His responsibilities do not cease even when the intelligence he disseminates has been used, for the use itself will pose new problems in collection and evaluation, and post-action reports must be compiled.

In the three following chapters the role of intelligence in support of planning and operational activities will be considered. The discussion, however, will not be limited to use alone. Any review of the use of intelligence will involve its production to a greater or lesser degree, since use activates and reactivates production.

CHAPTER 12

INTELLIGENCE STAFF PROCEDURES

INTRODUCTION: INTELLIGENCE—A STAFF FUNCTION

Having made a general examination of intelligence as knowledge, organization, and activity, it will be well now to consider the specific ways in which intelligence makes its contributions to the planning and execution of military operations. By what formal procedures is intelligence supplied in an actual operational situation? What specific techniques do intelligence officers use in order to make their services of value to operational commanders?

The Commander and His Staff

Traditionally, the key to all military operations is the authority of command personified in the military *commander*. He bears the full responsibility for the success or failure of all operations entrusted to him, and because of that responsibility, he also possesses full authority to plan those operations and supervise their execution.

Manifestly, it would be impossible for a single individual, however well endowed, personally to perform all of the tasks involved in a typical modern military operation. Consequently a commander has under him other individuals to whom he delegates one or more of the component parts of the broader task originally assigned to him. These individuals in turn may have subordinates to whom they will delegate certain portions of their own assigned tasks. Thus a structure is built up which we term the military *chain of command*, a device that provides a commander with the assistance he needs. After delegating appropriate areas of responsibility to each of his subordinates, the commander must plan, coordinate, and supervise their execution of these responsibilities.

Even this supervisory role, however, except at the lowest echelons of command, is more than any one individual can carry out alone. There are

just too many things to inspect, too many orders to issue, and too many subjects on which to be kept informed. And so, in addition to his subordinates in the chain of command, the commander also has the assistance of certain individuals who help him to coordinate and supervise the actions of his subordinates. These personal assistants are known as the commander's *staff*. In contrast to the subordinates in the chain of command, the members of the commander's staff do not possess any delegated authority or responsibility of their own. Their only purpose is to serve the commander personally and directly, and to assist him, as he may choose, in exercising the various supervisory responsibilities which his command entails.

The number of these staff assistants, and to some extent their organization and individual duties, ordinarily varies in proportion to the size of the commander's forces. But over the years a fairly standard staff organization has been evolved within the military profession which breaks down the duties performed by a commander's staff into several customary and well-recognized categories. Traditionally there are four principal staff functions: personnel and administration, intelligence, plans and operations, and supply. On an Army staff, for example, these four functions are performed by what are called the "general" (in contrast to the "special") staff officers, who are designated G-1 (Personnel and Administration), G-2 (Intelligence), G-3 (Operations), and G-4 (Supply). Naval commanders also have staffs which correspond roughly to these same designations, though with some changes. On some naval staffs, for example, intelligence may not be a separate staff division, but only a subordinate section under operations. On naval staffs communications is ordinarily an additional "general" staff function, on a par with operations, supply, and personnel.

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But whatever the precise organization of the naval commander's staff may be, all staffs perform the same basic duties, and all exist to help the commander discharge his supervisory responsibility.

Besides these staff assistants who help the commander in his operational functions, he usually has one or more personal aides, depending on his rank. On a naval staff these are the *flag lieutenant* and the *flag secretary*. Depending upon the size of the staff they may also have other operational staff duties, with the flag lieutenant perhaps serving as communicator, and the flag secretary as personnel and administrative officer. The structure of a typical naval staff is shown in figure 12.

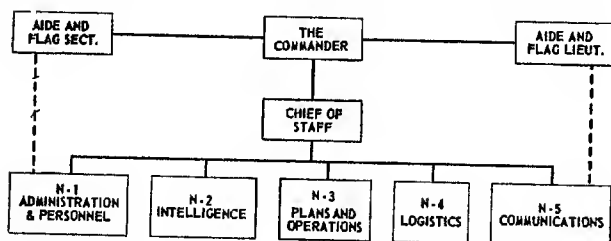


Figure 12.—Organization Chart—Typical Naval Operating Staff.

Each individual staff officer is highly qualified in some specialized field relating to military operations. The personnel officer, for example, is an expert on such matters as military strengths, reinforcements, replacements, etc.; the operations officer is a specialist in the strategy and tactics involved in planning and conducting military operations; and the supply officer is an expert on matters of equipment and material needed to support operations. Within the field of his own specialty each staff officer is expected to keep his commander fully informed on all developments relating to the operations in question, to do whatever detailed thinking and planning are required, and to make sound recommendations for action by the commander himself. Within the area of his specialty the staff officer should put himself mentally *in the place of his commander* and ask himself, "what would you do if you were the commander?", and then come up with the best possible answer.

Yet the final decision can only be made by the commander himself. The staff assistant proposes,

the commander disposes. However, the staff officer should have familiarized himself so thoroughly with his own field, and should have anticipated and discussed all the implications involved in the recommendation he makes so completely, that the commander is able to make the actual decision with a minimum of further effort. This is what is known professionally as *completed staff work*; that is, presenting a military proposal to a commander in such a way that he needs only to signify his approval to put the proposal into full effect. To a considerable extent the success of any military commander will be in direct ratio to the thoroughness and accuracy of the work of his staff.

The Intelligence Officer on the Staff

The intelligence officer's field of specialty is a dual one—the *enemy* and the *area of operations*. No military operation can be successfully planned or carried out unless a commander is as fully aware as possible of what he is up against. The enemy's strength, his dispositions, his capabilities, his firepower, his reserves—all of these are factors that are bound to affect the course of action a military commander will adopt. Without such information he is literally fighting in the dark. It is the job of the intelligence officer then to inform the commander of *what the enemy has* and *what the enemy can do*, in order that the commander can make the soundest and wisest decision as to how to accomplish his own mission. Similarly, the nature of the terrain in which an operation is to be conducted—the beach conditions, the weather, the location of high ground—will have an important bearing on the final decision, and information on those matters must also be furnished to the commander well in advance. This is also the job of the intelligence officer.

While the military staff is thus a collection of experts, each man dealing principally in his own specialty, it does not follow that the actual exercise of military command can be compartmentalized in any such precise fashion. After all, every one of the separate factors which bears on a military decision must ultimately be brought together in the mind of the commander before any final decision can be made, and the end product is thus

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bound to be the result of the combination, comparison, interaction and mutual adjustment of all of them. Consequently, although a military staff is functionally broken down into specialized units, none of these units can really function at top efficiency without the fullest cooperation and mutual understanding of the others. The intelligence officer, for instance, must keep constantly abreast of the planning and thinking that is being done by the operations, supply, and personnel officers if his own work is to be entirely relevant to theirs; they, in turn, cannot make adequate plans as to what special equipment may be needed in an operation, or what types of attack can succeed, without hearing and understanding what the intelligence officer has to say about the enemy situation and the peculiar characteristics of the area of operations. Between operations and intelligence this mutual dependence is especially close, a fact that is borne out in the case of those naval staffs where the intelligence officer is a direct subordinate of the operations officer.

Organization of an Intelligence Division

The work for which the intelligence officer is personally responsible is actually performed, of course, with the help of such subordinates and assistants as may be assigned to him, organized into what is called an intelligence "division." The size of the intelligence division as well as its precise structure will vary a good deal, depending on the size of the command and the nature of its assignment. On an operational staff the intelligence division may include specialists trained in the particular types of operations being conducted; a naval district intelligence office, on the other hand, will be likely to have a preponderance of counterintelligence personnel. Ideally, the intelligence division of an operational staff ought to include some one in charge of administration and personnel, some one in charge of security and counterintelligence, and a number of specialists in such fields as amphibious warfare, communications, air operations, photointerpretation, translation and interpretation, and technical intelligence. In practice, since all but the very largest commands may have at most only three or four officers

in the whole division, especially in peacetime, one officer may find himself charged with several of these duties, whether he happens to be a specialist in them or not. In such an event, when he meets a problem which he is not personally equipped to solve, he should consult those who may be, or in technical matters, request expert assistance.

THE PROCESS OF OPERATIONAL COMMAND

As a staff assistant, the intelligence officer exists entirely to serve his commander in the execution of operational command duties. To do a full and effective job, therefore, the intelligence officer must understand first of all precisely what these command duties entail.

Two major functions are involved in military command: (1) planning the operation desired, and (2) supervising the execution of those plans. These two functions, in turn, may be broken down into four specific jobs which a commander performs in the process of exercising his command: (a) make the *decision* on what is to be done, (b) develop the *plan* for carrying out that decision, (c) issue the *directive* or order putting the plan into effect, and (d) *supervise* the execution of the directive by subordinates in the "chain of command." These four jobs embrace the four major steps in the process of operational command planning. At each stage the responsibility of the commander is clear and well-defined.

Estimate of the Situation

The first and perhaps most important job of a military commander is to *make decisions*—in fact, not only to make decisions but to make *correct* decisions. Because making decisions is essentially a mental process, the quality of a commander's decisions will naturally depend to a considerable extent on his own sagacity. For this reason no precise mathematical formula can ever supply the key to making correct military decisions in all possible circumstances. Nevertheless, over the years the military profession has developed the following standard Estimate of the Situation form for use in connection with these decisions which every commander is expected to understand and, more or less, to follow.

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The Estimate of the Situation Form

1. MISSION
 - a. Task
 - b. Purpose
2. THE SITUATION AND COURSES OF ACTION
 - a. Considerations affecting the possible courses of action
 - (1) The general situation
 - (2) Characteristics of the area of operations
 - (3) Relative combat power
 - (4) Strength and weakness factors
 - b. Enemy capabilities (in terms of "accomplishment")
 - c. Own courses of action
3. ANALYSIS OF OPPOSING COURSES OF ACTION
4. COMPARISON OF OWN COURSES OF ACTION
5. DECISION
 - a. What the force is going to do
 - b. Why this is to be done

This estimate form, which grew originally out of a process first employed by the German general staff in the latter part of the 19th century, has now been officially adopted by the Joint Chiefs of Staff for use by all military services, and can be found in detail in the Naval Manual of Operational Planning. By itself, of course, the Estimate of the Situation form does not insure that any commander who faithfully follows it in every detail will automatically come up with right decisions in any and every situation. Rather the form serves as a kind of check-off list, to guarantee only that before a commander arrives at any important decision he will have first considered every relevant factor. Although it may seem somewhat stylized and artificial, the procedure involved in this Estimate of the Situation actually is not too much different from that employed by any rational individual in arriving at an important decision in everyday life.

As will be seen from the above form, the initial step in the estimate procedure is to state the mission assigned to the commander by higher headquarters. Ordinarily this amounts to nothing more than copying the commander's original instructions; but at least the statement of the mission should include both the specific *task* assigned to the commander by his superiors, and the *pur-*

pose (which may either have been stated or can be inferred) for which that task was assigned. It is important that a military commander understand both of these points clearly at the very outset. Otherwise, in the process of carrying out his assigned task, he might conceivably do something that would jeopardize its broader purpose.

The next step is to compile all the relevant information which might bear on the accomplishment of this assigned mission, including, specifically, (a) a resumé of the general situation out of which the specific assignment has evolved, (b) a summary of all the facts about the area in which the operations are to be conducted, and (c) a summary of the military strength of both our own forces and those of the enemy, together with a tabulation of the principal elements of strength and weakness on both sides which emerge from this information.

Following this general summary, the commander next makes a list of all those things which the enemy can be considered to be physically "capable" of doing, given the forces at his disposal and the particular area in which he is to operate. These are what are known in the military profession as *enemy capabilities*, and in the commander's Estimate of the Situation they are customarily expressed as specific objectives which the enemy will

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try to *accomplish*, without reference to whatever opposition our own forces might interpose to their accomplishment.

Once the enemy's capabilities have been listed in this way, the commander next puts down in equally general terms the various broad *courses of action* which his own forces might undertake to accomplish the assigned mission. The whole point of the estimate form, in fact, is to arrive finally at a decision as to which of these several *possible* courses of action open to the commander is the best one; but at this stage all that is required is to survey and set down in concise form each of the alternatives from which a final choice will later be made.

After this the form moves on to a kind of mental "war-game" between each enemy capability on the one hand, and each course of action open to our own forces on the other. In this way it becomes possible for a commander to visualize exactly what would happen in each combination of circumstances. No prudent commander certainly would want to make a decision on a course of action for the forces under him until he had tried to foresee as fully as possible all of the implications and consequences of that decision. The best way to do this, of course, is to visualize what would happen if first one course of action and then another were adopted. And that is precisely what the "war-gaming" procedure involves. Each friendly course of action is pitted in turn against each separate enemy capability. If the original selection of enemy capabilities and of own courses of action was carefully and thoroughly done, all of the possibilities which should be considered by a prudent commander before a decision is reached will have been covered in the process.

Next are tabulated the respective advantages and disadvantages which this "war-gaming" has shown accrue to each of the alternatives open to the commander. For example, it may have been shown that one course of action would be highly successful if the enemy adopted a particular one of its capabilities, but most disastrous if the enemy were to adopt any other capability. On the other hand, a second course of action might be visualized as relatively successful no matter which capability the enemy adopted. This is just the sort of com-

parison which should help in making a final decision. By setting these comparative advantages and disadvantages down in tabular form, the best course of action may become directly apparent. At any rate, the commander's final decision could then be made in the light of a full understanding of just what he stands to gain or lose.

The commander is now ready to take his final step, the *decision* itself. On the basis of the analysis just completed, he must select the one course of action—or in some cases the combination of several—which strikes him as being the *best* from all points of view to accomplish his mission. The statement of this course of action is itself the decision, and as such is listed in the fifth and final paragraph of the Estimate of the Situation form. In the standard form, the decision, like the mission, must be expressed in two parts. The first part is the course of action decided on, for example, "to seize X-ray Island." Following this should come the words "in order to" plus a restatement of the original mission set down at the start of the estimate. Thus a typical decision might read as follows: "To seize X-ray Island, *in order to* establish a base for further operations against Japan." In this way the final paragraph of the estimate form is tied in directly with the opening paragraph, and illustrates how, as a result of the thought processes involved in the body of the estimate itself, the commander has moved from an assigned mission to a specific decision as to how that mission is to be accomplished. That, of course, was the initial purpose in undertaking the estimate procedure.

There is really nothing mysterious or particularly strange about this Estimate of the Situation. It is no substitute, of course, for mental activity or alert thinking. It cannot transform a man into a military genius simply by virtue of being properly applied. But its careful use by a naval commander will assist him to avoid either overlooking or underestimating any significant bit of information that might conceivably bear on the soundness of his ultimate decision. That in itself is enough to recommend it in any complicated or crucial military operation.

In some cases experienced commanding officers may not actually write out a full formal estimate

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in the manner just described before arriving at a decision. For these officers the estimating process may involve simply an oral discussion between themselves and the members of their staffs, out of which, after due deliberation, the final decision emerges. But the important point is that even in oral discussions of this kind the prudent commander must see that each of the significant factors listed in the standard estimate form is actually covered either by his staff in their own presentations or, at least to his own satisfaction, by his own personal thinking.

At any rate, whether the estimate is developed in written or in oral form, the responsibility of the commander and his staff officers is the same. Each staff officer must supply certain parts of the information called for by the estimate. The intelligence officer, for example, must supply the information about the enemy's strength, his capa-

bilities, and the area of operations. The operations and logistics officers must supply information about the strength of the commander's own forces, and recommend suitable courses of action to accomplish the assigned mission. When it comes to the "war-gaming" portion, the pitting of own courses of action against enemy capabilities, all of the staff officers will probably participate in the discussion. To that extent, then, the final decision, although still the immediate *responsibility* of the commander alone, is actually a group *product* of the commander and his staff, working harmoniously as a single military "mind."

Development of the Plan

With the broad decision out of the way, the next job of a military commander is to draw up detailed plans for putting that decision into practical effect. The plans are developed as follows:

Development of the Plan

1. ANALYZE THE DECISION
2. STATE ANY ASSUMPTIONS USED
3. LIST COMPONENT OPERATIONS
 - (a) Obtain intelligence
 - (b) Movement or deployment
 - (c) Protect own forces
 - (d) Isolate the objective
 - (e) Gain the objective
 - (f) Provide logistic support
 - (g) Provide for security and deception
 - (h) Other component operations as appropriate
4. DETERMINE HOW EACH COMPONENT OPERATION IS TO BE CARRIED OUT; LIST FORCES AVAILABLE
5. ORGANIZE FORCES INTO TASK ORGANIZATION
6. ASSIGN TASKS TO APPROPRIATE ELEMENTS IN TASK ORGANIZATION
7. SOLVE COMMAND PROBLEMS
 - (a) Communications
 - (b) Coordinating measures
 - (c) Location of officer in tactical command and second in command
 - (d) Time and date plan will become effective
8. COMPILE INFORMATION NECESSARY TO PERMIT SUBORDINATES TO PERFORM TASKS INTELLIGENTLY
 - (a) General situation
 - (b) Enemy forces
 - (c) Friendly forces
 - (d) Area of operations

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Logically, the first thing to do is to determine what specific component operations must be performed to achieve the broad, generalized goal stated in the decision. A decision to capture a particular island, for example, would involve such component operations as preattack reconnaissance, combat loading, movement to the objective area, air and surface screening of the movement, and gunfire support of assault troops. Whatever the overall objective, its accomplishment will always involve a number of smaller, more specific tasks which the successful commander must thoroughly canvass in advance. After that he should organize the forces at his disposal in such a way as to perform these operations most effectively, and then assign appropriate tasks to the various subdivisions of this organization.

Besides the combat operations themselves a commander will at this stage also want to anticipate the various supporting details involved, such as what supplies he will need, and when and how he must get them; how and where he will exercise his command; what communications procedures will be most suitable for the operation; what additional intelligence is needed for more effective planning; and what information is to be distrib-

uted to his subordinates to insure their intelligent execution of their assignments. All of these details should be foreseen at this early stage, because the more detailed the advance planning, the more smoothly the operation will be executed. Indeed this particular phase of the command process is especially designed to provide a smooth transition from the generalities of the command decision to the concise details of the operational directive which will eventually implement it. In some cases this planning will be written out along the lines indicated in the format. In other cases it may consist simply of rough notes in the possession of the commander or various members of his staff. But unless the planning has been actually done in one way or another, the directive that sets the operation in motion will certainly suffer.

Issuing the Directive

After the preliminary planning comes the preparation and issuance of the directive. Here the commander usually has no option; the directive is a written document and must be issued formally as such.

The standard format of an operational directive is as follows:

The Directive Form

(Operation Plan or Operation Order)

Task Organization

(list all subdivisions into which the command is organized for the operation, with designating number and descriptive name for each subdivision)

1. *General Situation* (include here such information about the general situation as will permit a subordinate to understand current operations, including information about enemy forces, friendly forces—not listed in task organization—plus a statement, in the case of operation plans, of any assumptions involved)
2. *General Plan paragraph* (state what is to be accomplished by the integrated efforts of the command as a whole and why—in other words, restate the commander's original *decision*)
3. *Task paragraph* (assign individual tasks to each subdivision listed in the task organization above, plus such other tasks as may be common to all subdivisions)
4. *Logistics paragraph* (indicate the availability of supplies and services, and the general plan for logistic support of the operation)
5. *Command paragraph* (such instructions as are necessary to facilitate the exercise of command during the operation, such as, location of the commander and the second in command, communications procedures, zone time to be employed, etc.)

Annexes, Appendices, and Tabs (as appropriate)

The directive creates the task organization, formally assigns component tasks to the various subdivisions of this organization, makes provision for the performance of all necessary support functions, establishes times and schedules, and supplies subordinate commanders with such supplementary information as they may need to perform their jobs properly. Incidentally, this supplementary information is usually not set forth in the body of the directive itself, but is included in a series of annexes attached to the directive. These annexes may include details on any aspect of the directive which needs elaboration; for example, the task organization, movement plan, battle plan, communications plan, the logistics plan; or, as in the case of the intelligence annex, they may supply subordinate commanders with pertinent information about the enemy and the area of operations, plus appropriate instructions for collecting during the operation itself such additional information as may be desired.

In the operational planning that leads up to the issuance of a directive of this kind, there is often a persistent element of uncertainty regarding one or another point that bears closely on the success of the plans being formulated. In developing defensive plans, for example, there may be doubt as to the direction from which the enemy will be likely to strike, or, in the case of offensive plans, it may not be known whether certain necessary reinforcements will actually be available in time to take part in the offensive. In cases such as these it is often the practice for a commander and his staff to do their preliminary planning, including even the issuance of the appropriate directive, on the basis of certain *assumptions* with regard to these missing details. (See "Development of the Plan," item 2.) When this is done, the assumptions made must be clearly indicated as such. As its name implies, an assumption in military planning refers to a certain condition or situation, either unknown or currently contrary to actual fact, which for the purposes of planning is assumed to be true. Thus in the case of an unknown quantity, like the direction of an impending enemy attack, one plan

might be drawn up on the basis of the specific assumption that the enemy will attack from the south, while an alternative plan might be developed on the basis of the contrary assumption that he will attack from the north. Then as events disclose which of these two assumptions is true, the commander can also determine which of his alternative plans should govern his actual operations. Or, to take the case of an assumption presently contrary to fact, that reinforcements not now on hand will become available, the commander might elect to put his plan into effect as soon as the assumption becomes true, or to discard it if circumstances show that the assumption will not become true.

Naturally, a prudent commander will want his plans to be broad and flexible enough to cover as many contingencies as possible. This operational directive, then, will be issued with the understanding that it is to be carried out—unless expressly rescinded—no matter what subsequently develops. The commander will hope that his thinking and planning have been thorough and extensive enough to encompass all reasonable developments. In that case the commander makes no *assumptions* in his planning, because every assumption limits the flexibility of his plan and to that extent weakens it. This kind of directive becomes effective upon receipt, and is known as an *operation order*. On the other hand, the commander may prefer to draw up his directive in tentative form, involving one or another assumption, and issue it with the understanding that it will become effective only on later notification, usually after the matter covered by the assumption has been clarified by subsequent events. In that case the directive will be called an *operation plan*. The only difference between an operation order and an operation plan is that the latter includes one or more assumptions (specifically mentioned in the general situation paragraph) and is effective only on later signal, while the former contains no assumptions and is usually effective on receipt. Once an operation plan is put into effect it functions in exactly the same way as an operation order, and therefore, on all other points, the operation plan should follow

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the same format as the order, and should convey the same relevant information for the guidance in the direction of the commander's subordinates.

vising the Planned Action

Finally, the operational commander must supervise the execution of the action which he has previously decided on, planned, and ordered into execution. Even the best-laid plans, however, can go awry, and uncertainty and contingency are rarely more in evidence than in the conduct of military operations. A combat commander, therefore, must keep a careful eye on the actual progress of his operation so as to be ready to alter his original order whenever circumstances dictate.

There are four main developments, all of which can occur on any battlefield, that justify a change in the original order. There may have been some error or misunderstanding; there may be a change in the enemy's situation, or at least in what is known about it; there may be a change in our situation, some ship may have run into unexpected difficulties, or some reinforcements may have failed to show up; or, finally, there may be a change in the mission assigned by higher headquarters, perhaps as a result of a new situation confronting the superior. In each of these cases, the commander must make a decision *on the spot* as to how to change his original order to meet the altered circumstances. In the heat of battle, of course, there is rarely time for lengthy reflection or elaborate checking and rechecking. Presumably, in such circumstances, a commander will automatically make a mental estimate of the situation and then issue his revised orders. Still, the degree to which even these spot decisions made under difficult combat conditions are successful will be determined by the extent to which the commander, in more leisurely circumstances, has already mastered the various planning procedures outline here and made them a part of his normal mental habits.

INTELLIGENCE IN THE BASIC DECISION

In the light of these four steps which an operational commander must go through in carrying

out his command responsibilities, just where do intelligence and the intelligence staff officer fit in? Actually intelligence has a specific job to perform for the commander at each of these stages, and each one of these specific jobs involves a standard formal pattern which corresponds to a step in the command process itself. These four jobs, and their relationships to the stages of the command process, are shown in the following table:

Commander

1. Estimate of the situation.
2. Development of the plan.
3. Preparation of the directive.
4. Supervision of the action.

Intelligence Officer

1. Intelligence estimate.
2. Intelligence collection plan.
3. Intelligence annex.
4. Running intelligence estimate.

Just as the four stages of the command process form a special kind of cyclical procedure which is repeated in the case of every new decision that comes up as an operation progresses, so the four steps outlined for the intelligence officer also constitute a pattern which include within it the phases of the familiar intelligence cycle applied to the planning and execution of actual operations.

Intelligence Estimate

In connection with the commander's estimate of the situation the intelligence officer's job is to supply all of the information concerning the enemy and the area of operations. This information is submitted by the intelligence officer on a form called an intelligence estimate. In practice the intelligence estimate, like the commander's estimate, may under certain circumstances comprise only an oral summary. But the following standard form for it has been established and is usually followed in assembling the pertinent information, regardless of whether it may eventually be presented orally or on paper.

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Intelligence Estimate Form

Classification
Charts or maps:

Organization
Place
Date and Time

1. MISSION
2. THE SITUATION
 - (a) General situation
 - (b) Characteristics of the Area of Operations
 - (1) weather
 - (2) topography
 - (3) hydrography
 - (4) transportation & telecommunications
 - (5) economic
 - (6) sociological
 - (7) political
 - (8) other factors, as applicable
 - (c) Enemy situation
 - (1) numerical strength and combat effectiveness
 - (2) composition, including order of battle
 - (3) disposition or deployment
 - (4) logistics
 - (5) reinforcements
 - (6) résumé of current operations
 - (7) time and distance factors
 - (8) strength and weakness factors (including enemy vulnerabilities)
 - (9) other factors, as applicable
3. ENEMY CAPABILITIES
 - (a) Preliminary identification (in terms of what, when, where, in what strength)
 - (b) Analysis of each capability
 - (1) relation to other capabilities
 - (2) effect on accomplishment of our mission
 - (3) evidence indicating relative probability of adoption
 - (c) Final listing in order of relative probability of adoption

SIGNATURE

Distribution :

Also like the commander's estimate, the intelligence estimate begins with a statement of the commander's basic mission—which, of course, governs all pertinent planning—together with a statement of the general situation to which that mission applies. Both items are essential guideposts in selecting what information should go into the estimate under its various headings.

Thus in compiling information concerning the enemy's situation and the area of operations, it is important to remember that an estimate is not an encyclopedia; coverage must be adequate, but it must also be distinctly limited to the specific mission at hand. In addition, each item of information dealing with the area of operations should be followed by some brief statement or

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conclusion indicating succinctly the practical effect of that information on any military actions that might be conducted in the area. As far as possible the same should be done in the case of data relating to the enemy's situation. This section should include a complete order of battle of enemy forces involved, and special attention should also be given to time and space factors, that is, to careful estimates of *where* the enemy can move in *what particular period* of time. These factors, if worked out with care, will prove extremely helpful later on in determining enemy capabilities.

Under "strength and weakness factors" the net effect of all the information thus far developed is summarized insofar as it bears on the strength or weakness of the enemy to conduct military operations in the area involved. It is sometimes helpful in discussing enemy weaknesses to mention also any specific *vulnerabilities* that may have appeared. The statement of an enemy "vulnerability" differs, incidentally, from the statement of a "weakness" in that it should be phrased in terms of the military *action* which might take advantage of the specific weakness in question. For example, an enemy weakness might be listed as a long and overextended supply line. One way to take advantage of such a weakness, of course, would be to direct heavy air strikes against these lines. Therefore, the enemy would be said to be "vulnerable" in this respect. In other words, while weakness and vulnerability are closely related as concepts, in expressing "vulnerabilities" the intelligence officer has carried his thinking one step further in the direction of facilitating his commander's eventual decision.

Enemy Capabilities

The intelligence estimate culminates in its third paragraph with a statement of "enemy capabilities." Like the enemy capabilities which appear in the commander's estimate of the situation, these capabilities represent all of the courses of action which the enemy is "capable" of undertaking in the *future*, and which, if undertaken, would *affect* in one way or another the successful accomplishment of our own mission.

From the point of view of planning these capabilities are the central core of the intelligence

estimate. They are dealt with in considerably more detail than in the commander's estimate, and their formulation is the most exacting task the intelligence officer has. For here he is not merely collecting and cataloguing bits and pieces of information, but must pull the bits and pieces together, along with whatever preliminary conclusions or inferences may already have been made, into some meaningful and coherent *prediction of future enemy activity*, on the basis of which his commander can then make a sound operational decision. Since capabilities are so important to the whole process of command planning, it is absolutely essential that the intelligence officer understand clearly what they involve.

Ideally, a military commander can make a sound military decision only if he first knows exactly what the enemy forces opposing him *are going to do*. Armed with such foreknowledge, he could then dispose his own forces in such a way as to achieve maximum effect; without that knowledge he runs a greater or lesser risk of failure. Unfortunately, this brand of prophetic foreknowledge is rarely available to real (as distinct from ideal) human beings, and even more rarely is it available to those engaged in military operations. For even more than most types of human endeavor, military operations are shrouded in a cloud of uncertainty or inadequate information, not merely about the enemy, but about our own forces as well, a situation which the famous military philosopher Clausewitz termed "the fog of war."

It is the intelligence officer's responsibility to dispel this fog insofar as it concerns the enemy, and, traditionally, the notion of "capabilities" has been the device by which he has attempted to do so. Briefly, here is how it works. Since he cannot say with certainty what the enemy is *going* to do, at least he can determine all of the things which the enemy is *capable* of doing. Then, if his calculations have been careful and thorough, the course which the enemy actually does select will be among those considered. If, in addition, the intelligence officer can also determine the degree of probability that the enemy will adopt one rather than another of these capabilities, or, in other words, their order of *relative probability*, he will actually have gone a good way towards

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reducing the area of uncertainty about the future that attends any command decision, even if he has not been able to predict with absolute certainty.

Capabilities vs Intentions

At first it might appear that a somewhat less complicated solution to this problem of predicting an enemy's future actions is available simply by pinpointing the enemy's *intentions*. It might be argued, for example (and with some merit), that although a myriad of courses are theoretically open to the enemy, only one can actually be selected. To take all of these theoretical possibilities into account before a command decision is made, therefore, is wasteful both of time and substance. Hence why not concentrate instead on what the enemy *intends* or *wants* to do rather than on what he is *capable* of doing?

This concentration on intentions does have a certain plausibility, but on closer inspection it turns out to be deceptive. In the first place, information about enemy intentions, since it necessarily involves the mind of the enemy's high command, is the most difficult of all to obtain; hence the likelihood of a deduction based on solid evidence rather than on some "hunch" is comparatively slight. Secondly, intentions, even when accurately known, are by nature always subject to change. Even when the commander is so fortunate as to have accurate word of the enemy's intentions as of a certain moment in time, there is always the possibility that some later development may force the enemy to alter his plans and concentrate instead on some other course of which he was equally capable but which, until then, he had not been disposed to favor. Thus by focusing his attention exclusively on the *single* course of action which the commander is convinced that the enemy *intends* to follow, and as a result disregarding other courses of which the enemy was also entirely capable, any slightest error in the commander's information or any last-minute change in the enemy's plans would prove completely disastrous.

From the vantage point of hindsight some commentators have even suggested that the defeat at Pearl Harbor was the result in part of this kind of preoccupation with enemy intentions instead of capabilities: convinced that any Japanese strike would be directed to the south, we did not pay

adequate attention to their alternative capability of striking eastward.

In some exceptional cases it is possible for a commander to get good information about enemy intentions, and in such cases he would be making a grave error not to act on it. A classic example is the Battle of Midway, in World War II. Tipped off from secret sources as to Japanese *intentions* to strike at Midway, Admiral Nimitz deliberately ignored a continuing Japanese *capability* to strike once again towards Australia, and shifted all of his limited carrier forces north to the Midway area. That decision, of course, paid off heavily, but even so it involved a *calculated risk*, not only that the information was reliable and had been properly translated and evaluated, but also that the information was not deliberately leaked out as part of a planned deception effort.

Similarly, Stalin is reported to have made the fateful decision in November 1941 to reinforce his Moscow defenses at the expense of his Manchurian border positions mainly on the strength of *inside* information from the Sorge espionage ring that the impending Japanese move would be south against the Americans and the British rather than north against the U. S. S. R.

Indeed, on the highest level of military planning a concern with intentions as well as capabilities is probably inevitable, partly because it is unlikely that a potential enemy will make any last-minute change in basic national policy, and partly because at the topmost level any comprehensive survey of capabilities is likely to cover so wide an area that it becomes almost meaningless without some additional information as to the specific direction (or in other words, the "*intent*") of the enemy's current planning. In terms of capabilities alone, for example, the Soviet Union and her satellites could be said to be capable of striking against the free world at almost any of a great number of points along a vast perimeter. Since it would be manifestly impossible for us to fortify all of these spots equally well, we must therefore have some additional information as to whether the Soviets actually *intend* at the moment to exercise these capabilities, and if so, precisely where.

Relative Probability

While a concern on the part of the intelligence officer with enemy intentions in place of capabili-

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ties is a risky business, it is equally true that a mere listing of capabilities will usually make the picture of the enemy situation too broad and general to be of any real help in operational planning. There is a solution to this dilemma. It lies in supplementing the bare listing of capabilities theoretically open to the enemy with an appraisal of their *relative probability* of adoption. In this way the intelligence officer and his commander can focus more of their energy and attention in some specific direction without at the same time entirely disregarding all other alternatives.

The evidence that can be used to determine these relative probabilities need not be as specialized as that which is necessary to pinpoint a clear enemy intention. Any direct "pipeline" to the enemy's high command would, of course, supply substantial objective evidence pointing to an increased probability for one rather than another capability. But so too would any number of other types of circumstantial evidence, such as troop movements, or the construction of defense fortifications. The only restriction here is that arranging theoretical capabilities in some specific order of probability demands more than just a hunch; some real, *objective* evidence must be available, and the character of that evidence should be clearly described in the paragraph of the intelligence estimate which deals with capabilities. Without such evidence, the intelligence officer can only report that *no* evidence is available to indicate the relative probability of one capability over another.

"Adoption" vs "Accomplishment"

How is the statement of any enemy capability actually phrased in the intelligence estimate? What are the terms used to express it? To answer these questions, it is necessary to review briefly the basic purposes which this notion of "capabilities" serves in the military planning process.

An enemy capability has already been defined above as a course of action which the enemy is physically *capable*, with the forces at his disposal, of undertaking (irrespective of whether he will or will not undertake it), and which, if undertaken, would *affect*—either favorably or unfavorably—the accomplishment of a commander's own mission. In formulating these capabilities no

consideration is given to any opposition by our own forces. They are entirely "unopposed" capabilities.

It is important for a commander to understand the enemy's capabilities in order to make his own decision accordingly. It is equally important for them to be known to the commander's subordinates, so that they may be prepared for whatever actions may be taken against their own particular forces during the course of the actual operation.

In either case, it would seem only common sense to express these capabilities as specifically and exactly as possible. Ordinarily, careful answers are required to the following four questions: *what? where? when?* and *in what strength?* It is not enough to say simply that the enemy is capable of launching an attack with motor torpedo boats; if possible, that statement should also include some indication of *where* the attack can take place, *when* or after what time it can occur, and *in what strength* the enemy can launch it. Thus a capability might more helpfully be stated: "Attack with up to 40 motor torpedo boats at any point north of Cape Henry at any time after 1600 on 27 June." Whenever the pertinent information to answer one or another of these specific questions is not available, that fact should simply be noted in the statement of the capability itself. Thus, for example, without specific information on numbers, the capability above would be stated as follows: "Attack with an unknown number of motor torpedo boats at Cape Henry at any time after 1600 on 27 June."

The chief responsibility of the intelligence officer here is to reduce the broad area of uncertainty as much as possible. Even if exact information as to how many boats are likely to participate in such an attack is missing, it may still be possible to indicate at least some broad outside limits, with the use of such terms as "with at least" so many boats, or "with up to" so many. Even when the limits are broad, the planners are still better off than they would be without any information at all.

Incidentally, in connection with air operations there is a somewhat specialized procedure for expressing these specific details. Air capabilities, whether offensive or defensive, are of two kinds: maximum strength and sustained effort. The

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maximum strength, as might be supposed, is expressed in terms of the total number of aircraft of certain types which are capable of operating over the area in question. Sustained effort capability, on the other hand, is measured in terms of the frequency with which the aircraft available to the enemy can attack on a continuing basis. It is calculated, according to a carefully devised formula, in terms of "sorties," or in other words, the number of flights which the enemy can make over the target and return within some fixed period of time, usually 24 hours. In calculating the sortie factor, distances of different aircraft from the target, cruising speeds, turn-around times on the ground, and normal rates of attrition for aircraft in sustained operations must all be taken into account.

No such preciseness as this is required when it comes to incorporating these statements of enemy capabilities in the commander's own estimate of the situation. His problem, after all, is to decide on some broad general course of action for his own forces, leaving specific details to the plan and the directive. Since the commander's decision must be a general one, the several "own courses of action" theoretically available to him to accomplish his mission, from which he must select the best, must themselves be expressed in general terms. This means that the enemy capabilities, which have to be pitted or "war-gamed" against these "own courses of action" in the commander's estimate of the situation, must also be equally broad and general in their formulation, if the "war-gaming" process is to be meaningful at all. Yet, as has just been seen, enemy capabilities as formulated in the intelligence estimate are highly specific and precise. Some device, then, is needed to bridge the gap between the statement of enemy capabilities in the intelligence estimate, and the statement of enemy capabilities as they subsequently appear in the commander's estimate.

This is achieved by expressing enemy capabilities in the commander's estimate in what are called "terms of accomplishment;" that is, in words that designate the broad general result or objective which the enemy will be *trying to accomplish*; while in the intelligence estimate, on the other hand, enemy capabilities are expressed in *terms of adoption*, that is, in words designating specific and individual courses of action which the

enemy is capable of initiating or *adopting*, without regard for the broad objective he may be trying to accomplish.

Such words as "destroy," "interrupt," "sink," for example, are words which designate a completed result or accomplishment, while such words as "attack" and "strike" designate an action that is adopted without implying the results it may or may not accomplish. By employing this "accomplishment" phraseology it becomes possible to boil down a sizeable number of "adoption" capabilities from the intelligence estimate into a single one for use in the commander's estimate and that means, of course, that the job of "war-gaming" enemy capabilities against own courses of action becomes a much simpler matter than it would otherwise be. For example, an intelligence estimate might list a motor torpedo boat capability, an air attack capability, a submarine capability, a coastal defense gun capability, etc., each with different specific components of when, where, and in what strength. Yet all of these individual "adoption" capabilities might conceivably be directed toward the same broad result, for example, to "destroy our amphibious force prior to the ship-to-shore movement." In that case, the latter would amount to a single "accomplishment" capability of the enemy, which could then be used by the commander in his own estimate of the situation for determining his ultimate decision.

This distinction between "adoption" and "accomplishment" capabilities often confronts students with one of their greatest difficulties in understanding the estimate form. Actually, most of the difficulty is probably semantic, with words suggesting a greater distinction than actually exists. As long as the intelligence officer understands the necessity for "boiling down" the half dozen or so specific capabilities that he has come up with in his own estimate into two or three more general capabilities for use in the commander's estimate, he should find no practical difficulty in this distinction. The boiling-down job may be done by the intelligence officer himself after the intelligence estimate has been submitted, or it may emerge out of informal discussions which the whole staff conducts on the individual capabilities originally worked up by the intelligence officer. In either case the enemy's situation is the only

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proper guide. Both types of capabilities are "unopposed," that is to say, they are formulated without regard for whatever opposing effect our own forces may be able to offer, which is something that is considered, of course, at a later point in the commander's estimate.

The discussion of enemy capabilities in the intelligence estimate involves three distinct stages. First, the various "adoption" capabilities are identified and listed, as specifically as the available information warrants. In the second stage each individual capability is discussed, a process that normally covers three things: (1) the effect of the capability, should it be adopted by the enemy, on the accomplishment of our own mission; (2) the relation of the capability to other enemy capabilities; that is, whether it can be adopted along with certain other capabilities, or whether its adoption precludes the adoption of others; and, (3) what objective evidence is available to indicate the relative probability of adoption. In the third stage the capabilities previously identified are re-listed in the order of the relative probability thus deduced. Any boiling down of these various "adoption" capabilities into "accomplishment" capabilities for insertion directly into the commander's estimate of the situation is not a job that is normally done within the conventional framework of the intelligence estimate itself.

Strategic Intelligence Estimates

Before leaving the subject of intelligence estimates generally and the contribution they make towards basic military decisions, a brief additional word is in order with regard to the form which these estimates should take in the case of strategic situations.

In the foregoing discussion the intelligence estimate has been described as it applies to a typical operational situation, where some specific operational mission has been assigned to a naval commander. Many times, however, important decisions of a military nature must be taken in times of peace, when no actual operations against an "enemy" are involved, such as those relating to the deployment of defensive forces, or the rate of military production, or the type of recruitment program to be instituted. Circumstances which provoke decisions of this type are customarily referred

to in military parlance as "strategic" situations. The former chapter on the components of intelligence knowledge indicated the tremendous variety of strategic problems.

In strategic situations no less than in operational ones, however, it is imperative that command decisions be made on the basis of the best information available concerning the *potential* enemy and the *potential* area of operations. And so there is a need for *strategic intelligence estimates*. At the same time the somewhat specialized character of strategic situations dictates certain differences in the format of strategic estimates from that already prescribed for operational estimates.

For one thing, since no hostilities are involved, there can be no "mission" to govern the preparation of the estimate and determine what material should or should not be included. Instead the strategic intelligence estimate customarily opens with a statement of the specific *problem* or *question* posed by the strategic planner or other authority which requests the preparation of the estimate. Ordinarily this will have something to do with the military capacity or potential of some foreign country; for example, its capacity to oppose operations from some outside quarter. Or it may deal with the probable future course of foreign military operations already in progress. In each case the nature of the estimate is determined by the specific information which the strategic planners are interested in getting, and the final conclusions of the estimate should answer the specific question posed at the outset. This means that the conclusions of a strategic estimate may differ somewhat from the rather formal statement of capabilities and relative probabilities which has been prescribed above for the standard operational estimate.

The second major difference between strategic and operational intelligence estimates is that in the former more than one foreign military force may be involved. While it is not the prime responsibility of the intelligence officer to deal with the strength or capabilities of his own forces, all foreign forces not under the direct control of his commander do concern him, either as *potential* enemies or simply as elements which have to be analyzed and appraised in order to understand

some particular area of the world in which the strategic planners may be interested. In fact, in areas where foreign military forces may be actually fighting one another the intelligence officer must not only survey the strength of each of these separate forces in the strategic estimate, but must also attempt to visualize the probable future course of that conflict. This means that he will actually have to conduct almost the same kind of mental "war game" between opposing forces (though in this case, none of them our own) which a commander performs in his Estimate of the Situation. It also means that the conclusions of a strategic intelligence estimate of this kind would certainly go well beyond the mere statement of "adoption" capabilities in the customary operational intelligence estimate to a fuller consideration of probable results and developments.

Because of these differences, no standard format for the strategic intelligence estimate has been developed. In practice, the form which estimates of this type take is determined by the particular government agency which may be involved, as well as by the type of information desired. Nevertheless, with the differences mentioned above, all estimates follow the same general principles, and success depends first on the careful collection and marshalling of relevant facts, and then on the careful analysis of all the possibilities and implications that logically follow.

INTELLIGENCE IN THE PLANNING PROCESS

Preliminary Procedures

Once the commander's decision has been made, the staff turns to the task of working up detailed plans to implement that decision. First of all, the intelligence officer will probably want to block out some kind of tentative planning schedule for the guidance of his own division, so as to provide enough time to do all the many detailed jobs that have to be done prior to the actual target date. As planning progresses, of course, some changes in the target date or in other details may be made which will dictate corresponding changes in the intelligence planning schedule, and to this extent no schedule can be entirely hard and fast. But at least a careful intelligence planning schedule can serve as a reminder to all hands of what re-

mains to be done and the time available for doing it.

At this preliminary stage the intelligence division should also adopt, if it has not already done so, some kind of *standard operating procedure* (SOP), both for itself and for the various other intelligence activities in the forces under the commander. This SOP should be issued to all subordinate units over the signature of the commander, and should cover most of the intelligence matters that are normally germane to any operation, such as counterintelligence, the handling of captured documents and prisoners of war, the filing of periodic reports, etc. Like the planning schedule the standard operating procedure is intended chiefly as a guide and may be modified later as circumstances require.

Essential Elements of Information

The first substantive job which an intelligence officer must do in the planning stage is to make provision for the collection of whatever additional information is needed to insure the success of the forthcoming operation. As was pointed out earlier in connection with the development of the commander's plan, the collection of necessary intelligence is usually one of the component operations involved in the execution of any decision, and, unlike some of the others, one that has to be started well in advance of the actual target date. The pertinent information on hand has already been briefed and interpreted in the intelligence estimate. After the decision has been made a careful study of this estimate will usually show that many items of information about the enemy or the area of operations, which should be known to insure a successful operation, are missing. Before planning can proceed properly this missing information must be obtained. Questions like these may have to be answered: is the soil of the beaches firm enough to support our combat vehicles? Will the enemy defend his beaches or counterattack instead from inland positions after our troops are ashore? Is there enough water in the area to sustain our troops without additional supplies of our own? Such questions are termed "*essential elements of information*," often abbreviated as "EEI."

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In practice, of course, not every missing item of information a commander thinks he ought to know will turn up before the operation actually gets under way. Yet the commander may decide to go ahead anyway. To that extent, therefore, some of the essential elements of information are not, strictly speaking, "essential" to the success of the operation.

The Collection Plan

Having decided what information is needed, how does the intelligence officer go about collecting it? The first step is to determine specifically what concrete evidence might answer the questions posed by the essential elements of information. For example, if one of the EEIs is: "Will the enemy defend his beaches or counterattack instead from inland positions?" then evidence such as the location of fixed defenses or established fields of fire would tend to answer the question. Specific bits of evidence of this kind which can answer the EEIs are called *indications*, and the first step in collecting information is to outline the indications that apply to each individual EEI.

Now if information is to be collected, it must, of course, be collected by somebody. The next step, then, is to determine which units or individuals are available, and which are best qualified, for the collection task. In the case of beach defenses, for example, an underwater demolition team or a photo reconnaissance unit might be best equipped to spot the pertinent indications.

Roughly, there are four broad categories of potential intelligence collectors: (a) nonintelligence units and personnel within our own command, such as ground troops, aircraft, submarines, etc.; (b) personnel of the intelligence division, such as technical intelligence teams, translator and interpreter units, scouts, etc.; (c) military personnel not under our command, such as ONI, other governmental intelligence agencies, other military services, and friendly foreign military personnel and agencies; and (d) nonmilitary personnel, such as civilian informants. Personnel of the intelligence division can of course be used for such collection tasks as the intelligence officer himself may determine, while the services of military personnel not under our command would be available only

on request through proper channels. The use of civilian personnel would depend on the nature of the desired information, and the competency of the individual. Nonintelligence personnel within the command can be used only with the cooperation and approval of other staff officers, so that the assignment of collection duties to operational units will not conflict with other operation duty. Indeed it is chiefly for this reason that the commander himself is always considered as officially determining the EEIs, for he alone can judge whether some missing item of information is so important to him that its collection becomes a priority assignment for his own operational forces.

After collection duties have been allotted to the units available, the next job is to draw up a schedule for getting that information back to the intelligence division in time to use it. Some information, for instance, will be needed almost immediately or at least prior to some fixed deadline. Other items, like the condition of beach obstacles, for example, should be reported in terms of the current situation. Still other information, such as order of battle data, should be reported on a regular and continuing basis. These differing requirements dictate the need of a careful reporting schedule, so that units doing the actual collecting will submit reports in time to be of use.

In instructing collection personnel not trained in intelligence work, the intelligence officer should avoid using the broad and general terminology of the essential elements of information or even of the indications. Rather he should clearly describe exactly what he wants them to look for and report. Otherwise the collection effort may become a complete waste of time. In the case of information on beach defenses, it probably would not be enough to tell an air reconnaissance group simply to check and report on "beach defenses." The intelligence officer should state the precise kind of defenses he has in mind: pill boxes, trenches, barbed wire, underwater obstacles, or coastal defense guns. It is always much easier to see something when you know exactly what you are looking for; and the intelligence officer will get better results from collection assignments if he takes nothing for granted. These details, therefore, should serve as the *basis for specific orders* to collectors, and the intelligence officer's responsibility is to see

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INTELLIGENCE COLLECTION PLAN

Essential elements of information	Indications	Basis for specific orders	Agencies to be employed										Time and place for reporting information
			List	all	agencies	to be	used	in the	collection	of info	desired		
	(list for each individual EEI)	(any additional instructions that will facilitate collection of desired information)	(designate with an "x" mark which agencies are able to obtain the specific bit of information, and by circling one such "x" select the one which will have major responsibility for its collection)										(specify the headquarters or section to which reports should be made, the frequency with which they should be made, and any deadline)

Figure 13.—The intelligence collection plan—tabular form.

that they are developed with enough care to produce the results he wants.

Taken together these five steps: determining the EEI, listing the indications, designating the collection agencies, scheduling reporting deadlines, and issuing specific orders to collection personnel comprise what is known as the *collection plan*. The collection plan may be drawn up in a variety of forms, but experience has proved that one similar to the tabular format shown in figure 13 is most useful. The important thing is not what form is used but whether all of the essential steps have been taken.

Collecting information is not a job which ends when the formal directive has been issued or even when the operation has started. It continues throughout the life of the operation, and so provision must also be made within the text of the operation order itself for the rules and techniques that should govern additional collection. That is one of the main purposes for the next major intelligence job, the preparation of the intelligence annex.

The Intelligence Annex

It has been previously shown how at each successive stage in the command process the intelligence staff assistant performs some specific job designed to aid the commander in the successful execution of that particular stage. After the commander's decision has been made and his basic plan developed, the next command step is to issue the formal directive, the operation plan or operation order. Intelligence has two legitimate interests in the text of this directive. One is to see that it includes all information about the enemy and area of operations which subordinate commanders need to know to carry out their own parts of the operation successfully. The other is to disseminate to all subordinate headquarters such instructions as may be required to insure the full and proper functioning of the intelligence aspects of the operation.

In small operations, both purposes can adequately be served simply by incorporating the appropriate material within the body of the direc-

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tive as briefly and concisely as possible (sometimes perhaps even to the point of undue brevity), and by putting all amplifying details, including those dealing with intelligence, into separate annexes. Customarily, all material relating to intelligence

in any operation plan or order will be found in what is known as the *intelligence annex*.

Following is the standard form for an intelligence annex which is designed to cover the three principal tasks which the annex must perform.

Standard Intelligence Annex Form

File Number
CLASSIFICATION
Type of basic directive
and serial number

Title of superior of issuing command
Title of issuing command and administrative title
Name of flagship or headquarters
Place of issue
Time of issue

INTELLIGENCE ANNEX

Map or chart references:

PART I—INTELLIGENCE SUMMARY

1. The Situation
 - a. General situation
 - b. Enemy capabilities
 - c. Characteristics of the area of operations
 - (1) subdivisions as required
 - d. Enemy situation
 - (1) subdivisions as required

PART II—INTELLIGENCE MISSION and COLLECTION PLAN

2. Intelligence Mission
3. Essential Elements of Information
4. Collection plan
 - a. Orders to subordinate or attached units
 - b. Requests to higher, adjacent, and cooperating units

PART III—SUPPLEMENTARY INSTRUCTIONS

5. Measures for handling prisoners, captured documents, materiel, etc.
6. Maps, charts, models, and photographs
7. Specialist teams
8. Counterintelligence
9. Reports and distribution
10. Other subjects as pertinent

S The Commander
Rank
Title

Appendices and tabs (as necessary)

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Authenticated

Flag Secretary

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In the first part the information about the enemy and area of operations is summarized. In the second, intelligence collection tasks for subordinate units of the command to perform during the course of the operation are assigned. In the third all general procedures for handling and coordinating all other intelligence matters within the command as a whole are promulgated.

Generally speaking, the information in Part I of the annex is the same information about the enemy and area of operations which appeared previously in the intelligence estimate, except, of course, that it has been revised, expanded, and brought up to date by any information collected since then. As in the estimate, this summary of information, especially that dealing with the area, should include brief *conclusions* as to its significance for combat operations.

Occasionally an intelligence annex may be further broken down into supporting appendices and tabs whenever information of an elaborate or detailed sort can be better presented outside the body of the annex proper. Tide and sunrise tables, for example, might well be included in a separate appendix or tab and merely referenced in the body of the annex itself. There is no set pattern to follow; it all depends on the specific circumstances and volume of information at hand.

The real meat of this first part of the annex is the section dealing with enemy capabilities. This, too, generally resembles the corresponding section in the intelligence estimate, except that it must be revised and brought up to date in line with whatever new intelligence may have been developed since the estimate originally appeared. Here, incidentally, the value of expressing enemy capabilities in specific terms of *what, when, where, and in what strength* becomes clear, for the annex is designed primarily to guide and assist subordinate commanders. From their point of view the most important information about the enemy is what he can throw against their own particular force or vessels—plus when, where, and to what extent he can do so. As in the estimate, enemy capabilities should be not merely listed, but should also be discussed in terms both of their effect on the accomplishment of our own mission and their relative probability of adoption, although both

discussions may be more condensed than they were in the intelligence estimate.

Part II of the annex comprises the latest intelligence mission and collection plan. Since many of the tasks provided for in the collection plan which was drawn up at the outset of the planning stage will by this time have been successfully completed, the collection plan reproduced in the intelligence annex will not be an exact duplicate. Only *missing* information is handled in any collection plan.

The collection plan of the annex will therefore list only the current essential elements of information and their indications. The balance of the collection plan will outline the arrangements that have been made to get that information.

Normally, these arrangements will fall into two divisions. The first includes the collection tasks assigned directly to subordinate units of the commander's own forces, listed in the order in which the units appear in the *task organization* paragraph of the operation order. All of the details that may be needed to insure adequate collection should also be included here, because this listing of intelligence collection assignments in the annex amounts to a specific *order* to the subordinate units involved to perform the collection task. In fact from this point of view the intelligence annex is actually an integral part of the order itself, and must be carefully perused by all subordinates for possible assignments. For example, the "scouting unit," in addition to its other assignments, may be instructed to report all sightings of ships, aircraft, and small coastal craft, and the "air support unit" may be instructed to make specific photographic reconnaissance flights.

The second division of collection arrangements lists the requests for information that have been made to other headquarters. Here, for example, might be recorded the fact that certain information about guerrilla activities has been requested of Army headquarters, and will be delivered by special messenger prior to a certain hour. The collection assignments to units of the command and the requests made to outside agencies together will give subordinate commanders an adequate picture of all current plans for getting the information they need in time for them to use it.

Part III of the annex is a compendium of general instructions for the guidance of subordinate

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units in carrying out all other normal intelligence duties and responsibilities in the course of the operation. These include such subjects as the handling of prisoners of war, captured documents and materiel, the security and counterintelligence measures to be taken, instructions relating to maps, charts, photographs, and the preparation of periodic reports—in a word, all of the matters which are normally covered in the intelligence *standard operating procedure* of the command. While this procedure is already presumably in effect within the command, the annex covers these matters in specific relation to the current operation, and therefore may involve certain changes in the existing SOP that are required by the particular circumstances of this specific operation. For example, the type of prisoners captured in certain operations may be unusual, or there may be special counterintelligence measures required. The procedures outlined in this final section of the annex, therefore, must anticipate all of these special situations and provide adequate guidance to all subordinate intelligence sections in dealing with them. Without the direction thereby provided the intelligence work of the whole command may suffer from improper coordination and integration.

INTELLIGENCE IN THE RUNNING ACTION

Just as combat is the “pay-off” for the commander, so too is it the “pay-off” for his intelligence officer. Once an operation is underway the commander’s duty is to supervise it closely and be ready to make whatever changes in his original orders may be dictated by differences that develop between the *actual* combat situation and the situation that was originally *visualized* by his staff planners in drawing up the operation order. These differences are of two principal kinds: differences in the position of our own forces or their rate of progress in executing the plans laid down for them, and differences in the enemy’s situation or the character of the area of operations as the action moves forward. Differences of the second category, of course, will be the concern of the intelligence officer.

As was the case at Tarawa, it may develop that actual underwater conditions are vastly different from those anticipated in the original order; or,

as at Biak, it may turn out that what was regarded in the original planning as a gentle, rolling hill is in reality a sharp coral escarpment, filled with a myriad of limestone caves. New weapons may be encountered, as they were at Okinawa, or new and unexpected concentrations of troops, as was the case at Leyte. All of this new information, collected as an operation progresses by means of the very collection procedures which were set up earlier in the intelligence annex, must be evaluated and interpreted by the intelligence officer for any possible affect it may have on his current estimate of enemy capabilities. Any new conclusions that emerge must be passed along very quickly to the commander himself for use in his own reestimate and in any revision of his orders.

The intelligence cycle is in high gear. New information is collected as a byproduct of the fighting, processed by the intelligence staff division, and disseminated to the commander for his consideration and possible use in supervising the progress of the action. The tempo is rapid, for unless information is collected, processed, disseminated, and used *in time* it is completely worthless. So intelligence officers in combat have a responsibility not merely for accuracy but also for speed. While success may to some extent depend on individual qualities of alertness and decisiveness of mind, it can also be greatly facilitated by the understanding and use of proper techniques on the part of the intelligence division as a whole.

Plots

One of these techniques is the prompt and careful *recording* of all new information about the enemy and the area of operations that is received during an operation. The methods of recording may vary somewhat from command to command and from operation to operation, but in general all of them should prove helpful.

A *plot* of enemy positions and current operations is perhaps the simplest and most effective way of recording operational data. Such plots may be kept directly on a map or chart, or, perhaps more readily, on an overlay, and they may be of several kinds, depending on the specific operations at hand. One plot, for example, might show enemy submarine sightings, another the po-

sition of enemy surface forces, and still another that of enemy merchant ships. In an amphibious operation some kind of plot of enemy ground positions, enemy gun batteries, and possible enemy targets ashore would almost certainly have to be maintained. An air plot, with arcs indicating maximum combat radii for the various enemy aircraft involved, is also a must if the enemy possesses any air strength at all. Order of battle information on these plots may be shown directly on the overlay, or on a small sheet or card posted to one side and referenced directly to the plot itself.

In some cases the intelligence division may also be required to maintain a plot of friendly positions, although usually this is a job for operations not intelligence. The intelligence plot, however, will have to include enough information about friendly positions so that the data about the enemy can be properly understood.

The chief value of operational plots of this sort is that they make it possible for an intelligence division to record information in a form that enables the significance of that information to be recognized by the commander or any of his staff officers almost at a glance. Thus it must be as complete and current as possible. Not all of the information which comes in during an operation, however, can be recorded graphically, and the nature of any plot imposes certain limitations on the extent of the data that can be included on it. Other techniques are therefore needed if the intelligence division is to do a thorough recording job.

Journals and Worksheets

Normally the first step in recording information is its entry in the intelligence log or journal. The journal is nothing more than a chronological listing of all incoming dispatches and other items of intelligence value. It insures that nothing is overlooked, and that all incoming items are promptly referred to the appropriate part of the division for further recording, analysis, and dissemination. A journal usually consists of a number assigned to each new item, a listing of the point of its origin and time of receipt, a brief description of the item itself, and finally a nota-

tion as to its disposition within the division, whether to plot, worksheets, file, or elsewhere. (See fig. 14.)

Once new information has been properly logged in, it is further recorded on the appropriate *worksheet*. Worksheets separate information into the major categories that are of interest to the intelligence division at the time. These categories will, of course, be dictated by the character of the operations currently in progress. Separate worksheets, for example, might be kept for enemy submarines, enemy ground forces, enemy aircraft, enemy morale, or enemy guerrilla activity. Each worksheet entry should include its journal number, a résumé of the information it contains with the letter-number code as to source and accuracy, and such conclusions or deductions as may properly be drawn from it. As each new item is added on individual worksheets, it becomes possible for an intelligence officer to grasp rather easily the *cumulative effect* of new information and to recognize at any early moment any significant trends or developments that may be taking place to alter one or another of the enemy's capabilities. (See fig. 15.)

Files for Operational Intelligence

The importance of an adequate filing system in any intelligence activity has been discussed previously in the sections on collection and processing. Since operational intelligence files involve a much more detailed job of cataloguing than do worksheets, they cannot have top priority in the early stages of a combat operation. Nevertheless, an intelligence officer with a combat unit cannot neglect the maintenance of good files as a continuing responsibility, and it is perhaps only a mild exaggeration to say that in the long run an intelligence division will prove to be no better than its files.

The organization of operational intelligence files is likewise a prime consideration. In general the main subject headings should correspond to the principal categories of enemy activity that are likely to be of continuing interest to the intelligence division, and these should then be further cross-referenced with as much care and detail as time permits.

COMMAND _____ From: _____ To: _____ Date _____
LOCATION _____

Time		Serial No.	Date/ time	Incidents, messages, orders, etc. (identify, with place and time of origin)	Action taken
In	Out				

295

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SAMPLE INTELLIGENCE WORKSHEET FORM

COMMAND: _____ **SUBJECT:** _____

Journal No. of source	Date of source	Information	Evaluation and comments

Figure 15.—Sample Intelligence worksheet form.

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Running Intelligence Estimate

From the commander's point of view what is needed most in supervising the execution of a planned action is word of any significant changes in *enemy capabilities*. To meet this requirement the intelligence officer must maintain a *running intelligence estimate*, an accurate, up-to-the-minute assessment of enemy capabilities based on the latest available information.

If all the information coming into the intelligence division in the course of an operation has been properly recorded along the lines indicated above, the spadework for such a running estimate will have been done. In most cases an up-to-the-minute estimate can then be made simply by inspecting the various plots and worksheets to see where enemy capabilities may have changed. There is no standard technique for interpreting the effect of new information, but some intelligence officers have found it helpful to maintain a special notebook or clipboard for this purpose. To a certain extent the conclusions and deductions column of the worksheets themselves will serve as a running estimate, provided the breakdown of the individual worksheets has been made to conform with the principal enemy capabilities, and provided also that the conclusions in the worksheets have been drawn up with care and imagination.

But whatever technique is used, it is important to remember that the maintenance of a running intelligence estimate, like the drafting of an original estimate, is not just an automatic procedure. In intelligence it is always possible to fail to see the forest because of the trees; the failure can lead to disaster. Ultimately, a sound running estimate depends on the perception and imagination of the intelligence officer himself. Hundreds of bits of information can conceivably come in and be recorded without making a single *significant* change in enemy capabilities, while one small item might well change a whole picture. The intelligence officer must be constantly alert to recognize that single item in time, and no system of automatic techniques under the sun can do the job for him. All that the use of proper recording and cataloguing techniques can do is to cut down the likelihood of error. That alone is ample justification for their employment.

Intelligence Periodic Reports and Summaries

The responsibilities of the operational intelligence officer are not discharged when he has recorded new information, or cataloged it properly, or even interpreted it correctly. That information must get to the man who can use it—in most cases the commander—and get there *in time*. In military operations, an astute and discerning analysis that is locked up in somebody's files or on somebody's clipboard is completely worthless. To be any good analyses must be disseminated.

The responsibility for *timely dissemination* is also the intelligence officer's. He must not wait to be asked about changes in enemy capabilities; he must see that any new word is passed along to his commander as soon as it is available. In spite of all the emphasis which has been placed in these pages on formal procedures of one sort or another, the intelligence officer must never forget that at best these are only means to an end, never ends in themselves.

In an actual operation dissemination to the commander himself should be on a direct, personal, and usually informal basis. But when it comes to disseminating new information to the commander's superiors or his subordinates, this is usually done more formally in one or another of the reports and summaries which have been prescribed by the intelligence SOP.

One such periodic report, the *intelligence summary*, is usually prepared and submitted in message form every 24 hours. This summary, which may be distributed both up and down in the chain of command, should be as brief as possible, and generally should include a résumé of enemy operations, a brief of any significant new intelligence developed during the period, current weather information, estimated enemy casualties for the period, and any significant changes in enemy capabilities.

Depending on the desires of the particular commander and the circumstances of the operation, other more extensive intelligence reports may be issued on a less frequent basis. Once a week, for example, is typical for a *periodic report*, which would summarize enemy operations during the preceding week in much more detail than is possible in an intelligence summary, and which would also include more extensive discussions of any new

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items of possible interest. As reproduction facilities permit, photographs may also be included, and theoretically there is no limit to the elaborateness of intelligence reports of this kind. The intelligence publications of such agencies as JICPOA and SEFIC during World War II are typical of the sort of thing that can be done. The graphic attractiveness of these publications is not just a matter of aesthetic delight for those responsible for getting them out. It serves a functional purpose in encouraging the reading and study of the report by more individuals who might profit by the information it contains. Often an intelligence officer has a real selling job to do with the information he has amassed, and it can frequently be facilitated by the attractiveness of the particular package in which it is presented.

Still another kind of formal dissemination of operational intelligence is the *special report*, ordinarily submitted directly to a superior whenever certain information of unusual significance has been received. In cases of considerable urgency such a report would be transmitted by radio message, in which case it would be known as a *flash report*. There is no set schedule for filing such reports, of course, since they are submitted as circumstances dictate.

Like all other divisions of an operational headquarters, intelligence will also be expected to prepare a *post-action report*, summarizing the functioning of the intelligence division during the operation, discussing intelligence successes or failures, and outlining any recommendations for future operations. Reports of this kind are usually widely circulated, and will eventually become a basis for training activities, for guidance in connection with future operations, and for writing the official history of the operation at a later date.

CONCLUSION

This chapter has outlined the principal techniques and procedures by means of which the unique service that intelligence is qualified to perform is actually made available to naval com-

manders in the planning and execution of operations entrusted to them. Each of the forms described here is appropriate to some particular stage of military command. The closeness of that relationship can readily be seen from the composite chart shown in figure 16.

Complicated as some of these intelligence procedures may appear to be, especially on first acquaintance, the experienced officer knows how readily they are mastered by practice and how quickly they become an almost unconscious part of his daily routine. Important as techniques and procedures themselves are, they are overshadowed by certain other considerations. The form which an intelligence estimate or an intelligence annex takes, after all, is not nearly so important in the ultimate success of an operation as the extent and accuracy of the information it contains, or the soundness and imagination of the deductions and inferences drawn from it. On the basis of either of these an operational commander may well be obliged to make a decision affecting the lives of thousands of persons, and perhaps the security of the Nation as a whole.

No form or technique alone can guarantee sound decision. At best intelligence procedures are like windows, most effective when virtually invisible, and when the attention of their user is allowed to focus almost exclusively on *what* is being presented rather than on *how* it is being presented.

Every intelligence officer must remember that the ultimate purpose of intelligence, and hence the overriding test of every bit of activity within the intelligence division, is the extent of service which can be performed in support of strategic or tactical military operations. To be sure the forms and techniques outlined in this chapter represent those which have well served the intelligence needs of operational commanders in the past. Still this does not mean that they must remain forever inviolate, or that future operations and changing circumstances will not dictate certain revisions and improvements. The wise intelligence officer should constantly be on the lookout for such changes and be ready to adjust himself accordingly.

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HOW INTELLIGENCE SERVES COMMAND

The lines and arrows indicate the points at which material developed by the Intelligence Staff Division is used by the Commander in his process of operational planning and supervision of the planned action.

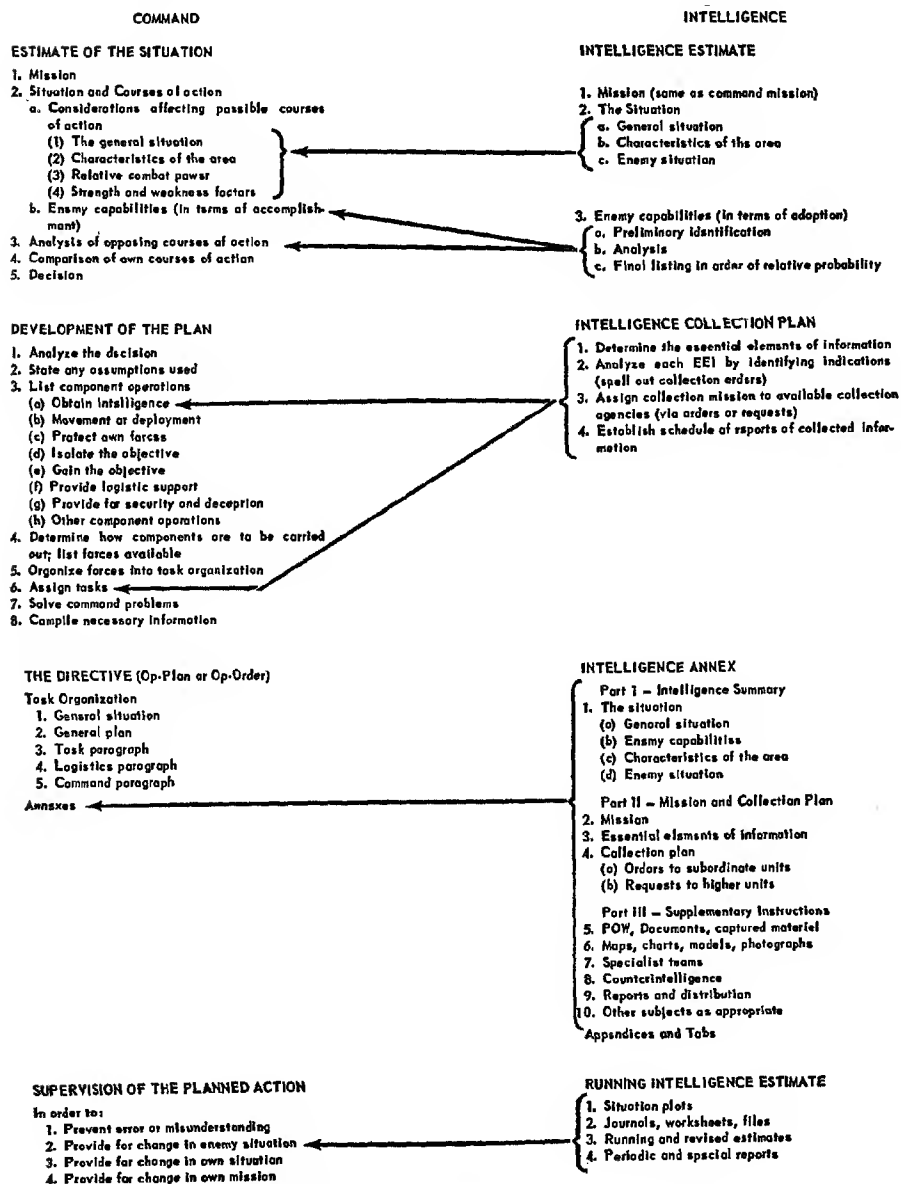


Figure 16.—Intelligence—specialized adjunct to command.

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CHAPTER 13

INTELLIGENCE IN SUPPORT OF OPERATIONAL COMMAND

Throughout the preceding chapter on Intelligence Staff Procedures we saw the cycle in action during the planning and execution of naval operations. The procedures followed and the techniques employed are in general common to all types of operations. This chapter will continue the discussion of intelligence in support of command, but will be concerned more specifically with its operational environment. Special attention will be given to the responsibilities and duties of the intelligence officer in operational billets to which he may be assigned.

In order to understand the increased importance of intelligence in a great variety of operational commands, it is helpful to review the development of the types of warfare in which the Navy participates, both at sea and on shore. The experiences of World War II afford the background. Intelligence can prepare itself for continued service only by a careful study of its past performance, and the lessons learned in former operations will point the way to future improvements.

INTELLIGENCE CENTERS

In a global war, the intelligence needs of one theater will differ widely from the requirements of another. The problem of dissemination alone makes it desirable to establish intelligence organizations under the area commanders to assume responsibility for the expeditious distribution of intelligence material to the forces that can use it.

This need was recognized at an early date in World War II, and steps were taken to provide for the establishment of intelligence centers at important bases close to the areas of operations. Over a period of time, area commanders were furnished the necessary personnel and equipment to maintain centers which would meet their particular requirements. The Office of Naval Intelligence in Washington gave technical assistance to the activities of these centers and provided specially trained personnel for them. This guidance

and support was, of course, vital to the production of intelligence. The mission of these centers was:

1. To collect, evaluate and process intelligence required by the command;
2. To disseminate pertinent intelligence to higher, subordinate, and parallel commands;
3. To provide long range intelligence coverage required for national planning; and
4. To provide counterintelligence support.

Centers in the European-Mediterranean Theaters

In late 1942, the decision was made to create a cooperative Army-Navy intelligence organization, which was called the Joint Intelligence Collection Agency (JICA). When established, this organization was located at Algiers under the Assistant Chief of Staff, G-2, Allied Forces Headquarters. Subsidiary units were placed at Oran and Casablanca. The mission of JICA was to meet certain long-range intelligence requirements of the Army and the Navy which could not be realistically imposed upon the staffs of operational forces.

The Navy assigned to the Algiers headquarters a selected team of officers and enlisted personnel which included specialists in the fields of investigation, research, language, document analysis, air intelligence and communications. It was the decision of the Army that its responsibilities to the new organization could be met by specialists attached to the G-2s of various Army commands in the area and by personnel of its Counter Intelligence Corps. During the early period of its existence, JICA became little more than a mail and dispatch unit. Its effectiveness was greatly diminished when some of its functions, including all counterintelligence activities, were eliminated and when no opportunity was found for cooperative assistance by Army intelligence units. After a time, most of its naval personnel were transferred to the staff of the Commander, 8th Fleet (Commander, North African Waters). However, small JICA units remained active in North Africa.

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Eventually, British representatives were attached to the Algiers headquarters and additional offices were established in Egypt and Burma. As a further development of JICA, there was organized in Washington a joint Army-Navy agency known as the Joint Intelligence Agency Research Center (JIARC).

When assigned to the 8th Fleet, the former JICA personnel were organized into a Naval Intelligence Unit under the staff N-2 and rapidly expanded their activities. The air intelligence personnel participated with a combined British and American staff in photo interpretation projects and field operations, collecting data required for the planning of amphibious and ASW operations. Specialists in prisoner of war interrogation and document analysis worked with the Combined Services Detailed Interrogation Center (CSDIC), Allied Forces Headquarters, Algiers, to exploit sources of naval interest for both long-term and short-range purposes. Additional personnel engaged in liaison activities with intelligence collection units of both national and combined military services in the Mediterranean, as well as with covert organizations maintained by OSS and the British Secret Intelligence Services. The NIU also formed teams from its personnel which were assigned to designated combat forces after special training with the Army Counter Intelligence Corps. Included in the functions of the NIU was the preparation of cooperative studies and reports, similar to the present national intelligence estimates and national intelligence surveys.

The field units of NIU, 8th Fleet, made effective contributions. At the time of the invasion of Sicily, a team went ashore before the tactical situation had been secured. Through its efforts, targets of counterintelligence value were captured and exploited and certain threats to the success of the landings were thus neutralized. For example, this team acquired Italian charts showing the swept channels in the Tyrrhenian Sea. In addition, it gained control of key communications facilities, thus preventing the Italians from alerting their German allies as to the size of the amphibious assault against Sicily. Captured documents also provided valuable technical information. The success of NIU, 8th Fleet, in its counterintelligence activities was such that British and

French liaison officers were assigned to it, and the Army recommended that future similar activities be carried out by combined teams. These teams, eventually known as "T" or Target-Forces, became the pattern for NIU-type counterintelligence operations during later phases of the war in the European theater, including the assault on southern France.

As the Allies advanced into Italy, the NIU, 8th Fleet, established offices in Naples and Rome, eventually operating as far north as Genoa. It made available its files on Italian organizations, situations, and trends to the Allied Control Council for Italy and to the Allied Military Government Organization, further assisting the latter agency by briefing assigned naval personnel. A continuing responsibility of NIU personnel was the exploitation of the archives of the Italian Navy and advice to Allied Forces regarding the disposition of captured enemy material. Throughout the period of its operation, the relatively small NIU, 8th Fleet, was most effective in its intelligence support of military command.

The 8th Fleet NIU cooperated with a similar unit which had been established under the N-2 on the staff of the Commander, 12th Fleet, who was also Commander Naval Forces, Europe, located in London. While the NIU, 12th Fleet, was substantially larger and its operations more extensive, its activities were similar. Its personnel carried out intelligence missions during and after the Normandy invasion, operated with naval commands in France and Germany, and participated in some of the intelligence work of the combined military staffs in Europe. As part of its function, the NIU, 12th Fleet, aided in setting up intelligence and counterintelligence targets and exploiting them both in the field and at headquarters in London. Exploitation of these targets was primarily accomplished through interrogation and document analysis. Eventually, the various T-forces were combined in Germany under one organization. NIU personnel also participated with a combined Japanese counterintelligence team which operated on the continent. Its members were drawn from the various military services of the United States, Great Britain, and France, and were attached to the G-2 Division of the Supreme Headquarters, Allied Expeditionary Force,

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(SHAEF). The results of the work of this team were made available to the Supreme Allied Commander in the Far East. This team was assisted by other allied T-forces and by the United States Naval Technical Mission in Europe. A considerable volume of information of intelligence value to the Navy was developed by the NIU teams which operated in Germany.

Location of Centers

Centers were established in forward areas of the Pacific Theater soon after the outbreak of hostilities and continued to function as long as they were of value. At first, they were located at Pearl Harbor for CinCPac, at Noumea for ComSoPac, at Kodiak for ComNorPac, at Brisbane for Com7th Fleet under ComSoWesPac, and at Norfolk for CinCLant. As conditions changed, the organization and locations of the centers were adjusted accordingly. When the South Pacific area ceased to be an active theater of operations after the collapse of Japanese resistance in the Solomons, the center at Noumea was closed. As operations in the North Pacific moved forward, the headquarters of the advance intelligence center moved down the Aleutian chain to Adak; similarly, the SoWesPac centers moved up the line from Brisbane to Hollandia, Leyte, and finally to Manila. One of the largest and most valuable intelligence centers for the fleets which operated in Central Pacific waters was the Joint Intelligence Center, Pacific Ocean Areas (JICPOA) at Pearl Harbor which was staffed by United States and Allied personnel of all services. Under JICPOA's direction offices were later opened at Guam when the fleet admiral moved forward, and distribution centers were also established at Leyte, Ulithi, and Eniwetok.

Area Responsibilities

The activities of each center, while basically similar, were of course influenced by the nature of the warfare in the area. The center at Norfolk, under Commander Air Force, Atlantic Fleet, naturally concentrated on problems of antisubmarine warfare for the operating squadrons in that command and problems of training for recently formed air groups which were destined for duty in the Pacific. At Adak, the center was

forced to make a thorough study of the peculiar aerological conditions prevailing in the Aleutians, the Kuriles, and Kamchatka, since the unpredictable weather distinctly limited operations in that theater of war. In the Central Pacific area, JICPOA and related centers concentrated on the specialized intelligence required for carrier warfare and for fleet and air support of amphibious landings. In the Southwest Pacific the short overwater jumps preliminary to the Philippine invasion were supported by land-based aircraft and did not require, for the most part, large naval supporting forces. Consequently, one of the chief responsibilities of the Seventh Fleet Intelligence Center (SEFIC) was to keep the Army theater commander informed on all naval matters. Prior to the Philippine landings, the center was concerned with the development of the guerrilla organization in the Philippines, including training of personnel, establishment of communications, and the organization of submarine missions to supply the guerrillas with arms, equipment, and supplies.

Collection and Processing

As stated above, one of the missions of the intelligence center was to process intelligence for the command. In most centers this mission was carried out at two levels: First, certain officers functioned as staff officers, furnishing information to the commander himself and to his operational staff; and second, a larger group of officers (frequently including some of the first group) were assigned to the various branches, divisions, or sections within the center, and were engaged in collecting and processing information for the subordinate, parallel, and higher commands. The duties of the first group have been described in the preceding chapter; the duties of the second were multitudinous, covering a wide variety of subjects under the purview of various sections of the center.

The term "objective data," as used in intelligence centers, generally applied to factual studies, principally of geographical nature. Some of these studies were comprehensive, such as the Joint Army Navy Intelligence Studies (JANIS), ONI monographs, and G-2 interim reports; others treated more restricted areas, such as objective

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folders, air target folders, and information bulletins; still others covered special fields, such as the joint target group series on Japanese industrial systems, translations of captured documents on enemy airfields, and terrain intelligence.

The chief responsibility of the officers working in the objective data section of a center was to insure that information on all areas under their cognizance was being made available to the planning and operating forces that required it. Preliminary surveys were published, and as more information was received and processed, the studies were revised and amended to incorporate the new data.

An important part of the analysis of strategic intelligence undertaken by intelligence centers in active theaters was the thorough examination of all available data pertaining to potential targets, including photographs, captured documents, prisoner-of-war interrogations, and the reports of technical intelligence teams with the object of recommending priorities and tactics for bombing missions and other combat operations. This became a highly valuable service of the JICPOA target analysis section, especially for carrier forces.

The cartography section of the center had cognizance over the map production for the area. Although the Hydrographic Office and the Army Map Service provided much of this material, maps, charts, and models for special purposes, such as air support or bombardment, were planned at the center servicing the area and frequently were produced there as well.

A special section of the center was responsible for maintaining complete centralized files of intelligence materials, adequately indexed and cross indexed. Accession lists were published daily, and cumulative lists at longer intervals. These proved invaluable in informing interested commands of available information.

The obvious need for order of battle data on all enemy forces required that a section of the center record all available information on the organization, characteristics, and numbers of the enemy naval, air, and ground forces. The basic knowledge acquired prior to the opening of hostilities was augmented by the reports of prisoners of war, and captured materiel also frequently yielded valuable information.

The intelligence center was the appropriate place for the compilation of data on enemy merchant shipping and the maintenance of special studies and statistics on this subject.

The valuable intelligence obtained from prisoners of war, captured documents, and captured materiel made it imperative for centers to include an adequate number of language experts. When large-scale operations were in progress, the quantities of documents and materiel and the large numbers of prisoners of war made it essential that trained officers be on the spot to supervise the efficient collection of intelligence from such sources. Consequently, intelligence teams were organized and sent out from the centers to follow up all landings and major operations. In addition to translators and interpreters, teams normally included specialists in naval aviation materiel and bomb and mine disposal. Saipan alone produced 27 tons of Japanese documents. The crash intelligence section of the Saipan team found 23 Japanese fighter planes on Aslito airfield, most of them in flying condition, as well as 30 aircraft engines and 300 boxes of spare parts.

Photo-Interpretation

The photographic section of JICPOA printed and disseminated to interested commands thousands of photos per day. Photographic interpreters identified and filed negatives and prints and prepared photo interpretation reports, mosaics, and overlays. In those instances where an objective had not been recently photographed and the information was needed immediately, a "first phase" report of available data was speedily distributed. As soon as complete photo coverage had been made, a "second phase" report was issued. Special reports such as shipping, aircraft summaries, beach studies, and photogrammetric studies were issued as requested or deemed worthwhile. As in other sections of JICPOA, photo interpreters concentrating on specific areas or subjects were available and employed for conferences and briefing sessions. The section also had a pool of photo-interpreters undergoing indoctrination for later assignment to combat units.

In addition to extensive photo reproduction facilities, the photographic section had ozalid, blue-print, photostat, multilith, and mimeograph

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equipment, all of which was extensively used. The reproduction of great quantities of aerial photographs for the cartographic section was a very important part of the photo section's responsibilities. Especially in the Pacific, where maps, charts, and background intelligence were either inadequate or did not exist, the photographs and interpretation reports furnished much, if not most, of the vital information needed by the objective data section for the preparation of the Information Bulletins, Target Analysis Bulletins, and Air Information Summaries.

Other Responsibilities

The technical section of the center analyzed the information collected by representatives in the field and converted it into usable intelligence both for the strategists and the operational forces. Thus, information gleaned from the serial numbers on crashed enemy aircraft often established rates of production, and tests of aircraft captured in good condition revealed the plane's capabilities in combat.

The psychological warfare section maintained liaison with other agencies interested in attacks on enemy morale. At JICPOA during the war, a vast amount of psychological warfare material keyed to the exigencies of the current situation was prepared and distributed directly from the center, and the operating forces were indoctrinated by the center in the employment of this material.

The chief responsibilities of a section devoted to survival intelligence were the production of all intelligence and equipment for air-sea rescue, evasion and escape, and in general everything concerned with problems of survival in friendly or enemy areas. Experts reviewed all experiences of personnel who had returned and disseminated intelligence accordingly, either informally through memoranda and articles in current publications, or officially through directives, such as those issued by CinCPac on the standard operating procedure for air-sea rescue in combat and non-combat areas in the Pacific Ocean areas. In such fashion, distress communications procedures, emergency flight controls, survival methods and equipment, and indoctrination of personnel in these matters were standardized, and prompt

emergency assistance to aircraft and surface vessels in distress and the rescue of survivors were made possible. Centers also produced evasion and escape manuals containing the latest information available on the locations of enemy forces, guerrilla forces, Allied troops, and friendly or unfriendly natives. Special sections were prepared for each part of enemy controlled territory in which linguistic or other differences in the native population or terrain required special evasion procedures, and large-scale briefing maps for these areas were included. This information was kept current for the operating forces by supplementary messages.

The size and complexity of operations in the Pacific made the assembly, evaluation, and dissemination of operational intelligence increasingly difficult. Comprehensive studies were required to determine what lessons could be learned from past actions, and new estimates were made of the enemy's capabilities, tactics, and order of battle, as well as evaluations of our own capabilities and the effectiveness of our tactics and ordnance.

Some of the information gained from such study was of interest principally to higher commands, but much battle experience was also useful to subordinate commands and to individual personnel for general information and morale purposes as well as an aid to tactical training. Experience demonstrated the desirability of combining in one intelligence center all the functions of processing and dissemination of combat and operational experience, including statistical analysis, so that in one coordinated operation appropriate material might be extracted for command statistical and analytical purposes and for dissemination to various levels.

Detailed statistical analysis of operations was largely the responsibility of ONI and other offices in Washington. Nevertheless, it was found necessary, in order to avoid delay in furnishing data to combat commands and units and to secure appropriate concentration on matters of local importance and interest, to initiate a large volume of analytical and basic statistical studies in intelligence centers. An example was the operational intelligence center of ComAirPac, which produced the periodical Analysis of Pacific Air Operations, Air Operations Memorandum, and briefs

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of both reports for distribution to commands of fleet units, and also special statistical data and operational reports for ComAirPac and CinCPac. By virtue of conducting these studies in conjunction with a general intelligence center it was possible to produce reports that presented operational intelligence in practical relationship to objective and order of battle intelligence.

The principal duties of flak intelligence officers assigned to intelligence centers were: the development of methods of analyzing enemy AA, such as the flak computer; the investigation of the characteristics of enemy AA materiel to determine its capabilities and limitations; the observation of all tactical tests of flak intelligence; the statistical analysis of AA damage to naval aircraft to determine the circumstances under which it was effected; the training of flak intelligence officers for service with the fleet; and the dissemination of all useful flak intelligence.

Aside from the publications of a specialized nature which were issued by the sections described above, it was customary for intelligence centers to prepare a periodical of a general nature to keep the command informed of the most significant developments in all categories. Such publications were daily, biweekly, weekly, or monthly, the regularity being determined by the amount of intelligence to be disseminated and the speed required. Some commands published more than one of these, though the most common practice was to issue a weekly intelligence bulletin.

Although the specialists concerned with the identification and characteristics of own and enemy aircraft, fleet and merchant shipping, and mobile land equipment were at times separate units attached to administrative commands, such as the ComAirPac recognition unit during the last war, it was nonetheless essential for intelligence centers to insure that all such information was given adequate dissemination. Furthermore, for its own work, it was necessary to include in its organization a sufficient number of officers to supply the necessary data on recognition whenever required. It was general practice to include information which could be furnished by the recognition officer of the center, such as photographs and statistics on aircraft, ships, and ground vehicles.

All centers assigned to certain officers, either as

a full-time or part-time duty, the task of maintaining liaison with other services, agencies, or any unit which required the information available in the center. In turn, representatives of other units were at times stationed in a center as permanent liaison officers to act for their commands whenever desirable. This was especially true at JICPOA where, in addition to the representatives of United States organizations directly involved, there were also liaison officers from Allied services, such as the British Army and Navy and the Australian forces.

ADVANCE BASES

The intelligence duties at advance bases during World War II varied according to the geographical location, local command organization, and general importance. The base intelligence officer had to be intimately acquainted with the exact nature and limits of the mission of his commanding officer in order to perform his duties efficiently.

The commander of an advance base usually had duties relating to the repair and supply of an operating fleet and to the routing and control of shipping. His intelligence officers, therefore, had to be familiar with basic operation plans in effect in order to keep the commander informed of all changes as operations in the area progressed. This was accomplished by means of comprehensive plots on convoys and routing, friendly and enemy submarine and surface forces, and the air activities, such as area searches and barrier patrols.

Responsibilities of the intelligence officer also included the briefing of naval and merchant ship captains on intelligence matters relating to their missions. Often he was of service to them in conducting investigations relating to security matters and to counterintelligence problems. In the course of this work, and in his general contact with naval and merchant marine personnel, he would collect much valuable intelligence information.

Often his duties included administration of censorship regulations, public information and liaison with news correspondents, ship boarding, liaison with friendly forces in the area, formulation of regulations governing relationships with local natives and liaison with them. Finally, he was responsible for the collection, processing, and dissemination of intelligence regarding enemy forces in the area.

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A consideration of the duties of an operational intelligence officer assigned to a naval district or a sea frontier is important for two reasons; first, because it was the experience and knowledge gained from those operations which formed the foundation for the development of operational intelligence in the combat areas in World War II; and second, because in future wars we can no longer rely on the vast expanse of ocean which separates us from Europe and Asia to protect our coasts from continuous and devastating attack. The German U-boat campaign from 1942 to 1945 demonstrated the need for a complete coastal intelligence network. The present development of the submarine, the aircraft, the rocket, and the guided missile are all further arguments in support of the continuance of such activity.

On 14 April 1942, the first victory over a German submarine in Fifth Naval District waters took place. The terse announcement merely stated "U. S. S. *Roper* sank sub at 35-55N, 75-15W, at 0069. 29 bodies recovered." The *Roper* did not stumble on the U-85 by chance, but was directed to first contact by the accurate intelligence of Fifth Naval District operations. District and sea frontier intelligence organizations accordingly discharged such responsibilities, as well as furnishing operating units with information concerning friendly forces and the characteristics of coastal waters.

During World War II, the basic mission and responsibility of all operational intelligence branches in naval districts and sea frontiers was to collect, from all sources, combat and operational intelligence and information useful to the Naval Establishment, and after coordination and evaluation, to disseminate it to the action agencies of all Naval Districts, Sea Frontiers, the Office of Naval Intelligence, and to other appropriate government agencies and commands. Such a program entailed the establishment of intelligence rooms and plots in joint operation centers and of intelligence units at all outlying section bases, airfields, harbor entrance control posts, and other naval shore stations. It involved the supervision of mine watch organizations, the handling of wreck information, the organization of a fishing vessel control plan, and other similar activities. Coastal information sec-

tions of the naval districts, given the job of performing operational intelligence, broadened in scope and came to be known by the latter name.

In the various sea frontiers and naval districts, the mission of performing operational intelligence was accomplished by similar if not identical methods. While operational intelligence in sea frontiers collected, processed, and disseminated information and intelligence furnished by the districts within the frontiers, districts performed the same functions for intelligence furnished them by their joint operations centers, section bases, and airfields. In other words, the district organization functioned operationally as a task group under the sea frontier task force command. Physical arrangements and internal organizations varied, but in most instances accomplishments were the same.

Operational Intelligence Duties With Battleships and Cruisers

Because operational intelligence billets afloat were a product of World War II and because the demands of commanding officers differed, established doctrine for intelligence officers reporting to single ships awaited experience, trial and error, and zealous attention to the task by a growing number of such officers, who ultimately were assigned to half the battleships, a score of cruisers, and to numerous other units. Standard procedures were forthcoming, however, and the intelligence officer's value was recognized. One commanding officer of a battleship, in commenting on the duties of his operational intelligence officer, stated, "He devised means, procedures, and developed systems of intelligence reporting of such value that he made himself of inestimable value to his commanding officer during combat and cruising operations."

The intelligence officer assigned to a single ship was at all times responsible to the captain of the ship who also defined his duties. He was, in effect, a member of the captain's staff and he had the same relationship to the captain as did the flag intelligence officer to his admiral.

Since most ships during the war were in continuous operation, the intelligence system finally employed relieved the ship's intelligence officer of much of the responsibility for developing sources of information aside from the battle expe-

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rience of his own ship. Instead, task force and fleet intelligence officers and, above all, the area intelligence center, were given the primary responsibility for furnishing intelligence for use by combatant units. The process was never perfect, however, and the ship's officer owed to his captain the duty of making sure that the ship was included in all distribution lists governing the dissemination of intelligence publications useful to the ship. Adequate familiarity with the intelligence center, frequent liaison with group, force, and fleet intelligence officers, and extensive visiting with shore-based commands as opportunity permitted proved effective in making the officer aware of the intelligence available. Intelligence while at sea was for the most part obtained from telecommunications. The intelligence officer could insure his receipt of all pertinent messages by explaining his needs and problems to the Communications Department.

The volume of intelligence received by an alert ship's intelligence officer, although not so great as that of higher echelons, required extensive study if it was to be thoroughly mastered and necessitated the employment of files useful for quick and ready reference. A universal means employed to evaluate and disseminate information was the plot, for much of the intelligence concerning the enemy situation, the theater of action, and friendly forces lent itself to graphic presentation. The information best handled in this manner included surface, air, and submarine contacts, sightings, and fixes; known and probable enemy air searches; friendly submarine operating areas, positions, and tracks; friendly air searches; the shipping routes and positions of friendly convoys, as well as established fueling areas and reference points; own ship's track in relation to that of other combat units; minefields, whether laid by the enemy or by friendly forces; and uncharted navigational hazards.

In most instances, all information suggested above could be kept on one strategic plotting chart. The more or less permanent items could be laid off directly on the chart, whereas information of temporary value could be plotted on an acetate or tracing paper overlay, which could be changed as conditions warranted.

Since this situation chart or plot was for the primary use of the captain, executive officer, navigator, CIC officer, and OOD, it was maintained near the bridge, in CIC, or at both locations as space and requirements dictated.

A function of battleships and cruisers, when attached to a gunfire support group in an amphibious operation, was bombardment of targets on land. Fire support charts of suitable scale and accuracy were usually furnished by higher echelons and showed all known information on enemy targets useful to bombarding units. However, as an operation progressed, further intelligence had to be supplied to the CIC, the gunnery officer, and other interested personnel. Attention was paid to prospective as well as to assigned target areas. Of interest were gun emplacements, supplies, air fields, radar, roads, harbors, defenses, bases, and hideouts for small craft.

Another medium which was employed by the ship's intelligence officer to convey current information to officers needing it was the daily intelligence report or summary. Its purpose was to collect and assess the most important items of information received during the past 24 hours.

The activities of specialized departments dictated more detailed attention by the intelligence officer. Thus the development of CIC in World War II as the operational nerve center of the ship concurrently called for special service from the intelligence officer, whose information from a multitude of sources was of great value to the evaluations and operational decisions undertaken by radar and plotting personnel in CIC. The CIC officer, by means of the daily summary, by having access to the strategic and tactical plots, and by being furnished with pertinent information from all sources was kept well informed. It proved desirable for the intelligence officer to spend considerable time in CIC during surface engagement, air attack, or bombardment in order to lend every aid possible to the executive officer and CIC officers faced with weighty problems of evaluation.

The seaplanes carried by cruisers and battleships had important patrol, search, and spotting functions and, what was probably of the greatest value in World War II, performed difficult rescue

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missions. Briefing of seaplane pilots naturally depended on their specific assignments, but in most cases required information beyond the routine needs of the ship itself.

Most major units had recognition officers assigned to instruct ship's personnel in identification of friendly and enemy aircraft and ships. New enemy aircraft and ships frequently first appeared in publications, bulletins, or summaries received by the intelligence officer. The disposition of such material was obvious.

In practice, the responsibility of the intelligence officer in keeping ship personnel informed of current information was necessarily limited to notifying key individuals. It was futile to attempt to contact personally all ship's officers and men. Yet all needed an adequate general idea of the overall situation and successive events. During the past war, one captain arrived at a satisfactory solution by requiring all of his department heads, plus certain designated key officers, to read the daily intelligence summary and to see the situation plot.

Supplementing these regular information services, other graphic displays such as maps and frontline plots were maintained in the wardroom for officers and in a readily accessible place for the crew. Lectures on special subjects concerning the enemy, the objective, or especially instructive battle experiences were likewise valuable to all hands, not only to keep them informed but to maintain their morale, their interest, and their desire to fight.

The intelligence officer realized that operational experience was a primary source of information. Without his own efforts and those of many others in similar jobs, first-hand information on enemy tactics, materiel, strength, and capabilities would have been lost. His own notes and observations were supplemented by the reports of other officers and men previously indoctrinated with the value of accurate recorded observations.

Post battle duties of the ship's intelligence officer, as is true of officers in most intelligence billets, included contributing to the ship's action report. Intelligence officers with higher echelons depended heavily on full and accurate detail in these reports for vital information.

INTELLIGENCE FOR SUBMARINES

Submarine operations during the war with Japan resulted in the sinking of 5,000,000 tons of Japanese merchant shipping and the destruction of such a large number of warships that the Japanese Fleet was very seriously crippled. An important supporting aid to the submarine commanders in achieving this brilliant record was the intelligence data furnished them by the intelligence centers of the fleet in the Pacific areas. The data furnished the submarine command at various centers were basically the same, but the method of operation varied at each center. For example, JICPOA assigned no personnel to the submarine command but worked through a liaison officer stationed at the center.

The intelligence support of submarine operations was largely supplied by intelligence centers which prepared and carried on specialized programs designed to assist the submarine commands in destroying the greatest possible number of Japanese ships and likewise in reducing the hazards inherent in submarine operations. An examination of the methods employed by the Seventh Fleet Intelligence Center will illustrate the general methods employed by all centers in performing this function.

In connection with locating enemy shipping targets, SEFIC undertook numerous studies relating to enemy merchant vessels and warships, their movements and equipment, and disseminated the findings to the submarine command. Charts were prepared showing individual and convoy shipping routes, points of convergence, overnight anchorages, and hiding points. These charts were kept current and changes in routes based on a compilation of new sightings of enemy shipping by aircraft, coastwatchers, and submarines were indicated. Statistical data, including damage and sinkings, new construction, new armament, radar, and special equipment on Japanese merchant vessels and warships, were also disseminated by the center. SEFIC prepared data, charts, and drawings showing the estimated position of enemy minefields, the estimated search sectors and patrol doctrine of enemy patrol planes, the antisubmarine practices of enemy surface ships, and the use by the enemy of picket boats.

From time to time information was received at

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the center indicating, for example, that an important ship target had moved into an area patrolled by a submarine of the Seventh Fleet. The center would then communicate this information directly to the submarine command by radio for further relay to the submarine itself.

The need for keeping the intelligence organization in constant contact with the submarine command resulted in the establishment of an intelligence unit subordinate to SEFIC and attached to Commander, Submarines Seventh Fleet. In the plot room of this unit situation charts, special charts of patrol areas, minefields, and similar items were kept, showing the current picture. Here the intelligence officers stood a continuous watch and performed operations duties including the processing of operational messages to and from submarines on patrol.

An intelligence annex to each operation order for submarines going on patrol was prepared by the unit. It contained all data pertaining to the enemy of value to the submarine commanders and included routes taken by convoys and by individual ships, cargoes carried, ship position, type and number of escort vessels, method of convoy, antisubmarine measures, sonic devices, radar shore installations, enemy bases and airfields, radio shipping frequencies of major ports, enemy merchant ships and fleet units estimated to be in the operating area, and estimates of future enemy movements. In addition to the annex, charts annotated with such of this information as would likely be needed in the operation area were prepared for each patrol or special mission.

Other duties included briefing the commanding officer of each submarine prior to his departure for a war patrol or special mission and interviewing him upon return.

Additional duties were the preparation of war patrol summaries and the compilation of digests so that later patrols might have first-hand knowledge of operating conditions. Of particular interest to submarine commanders was the information gained from such summaries on water salinity and temperature and the force and direction of currents.

Each day the officer in charge of the unit briefed the admiral and his staff on the situation as it pertained to each submarine on patrol.

INTELLIGENCE DUTIES WITH TORPEDO BOATS

The employment of torpedo boats in World War II included moving selected squadrons forward with amphibious forces and establishing them in bases from which they could defend the newly won beaches against attack from the sea and strike enemy supply lines. The functions of the intelligence officer, whether he was assigned to an operating squadron or to the commander of an advance base, were in general determined by these missions. In Pacific operations, the activities of the intelligence officer with torpedo boats were influenced by several additional factors which were highly significant both before and after moving up to the advance base.

The primary mission of the boats, to attack enemy warships and supply vessels with torpedoes, was steadily expanded to include the destruction of enemy waterborne supplies. This meant combating the extensive and effective Japanese system of night traffic by barges and other small craft with shallow draft. They hugged coastlines to avoid detection, utilized shallow water, took full advantage of coastal defenses, and employed carefully selected bases and staging points. To be effective against such targets, torpedo boats needed more than altered armament. Accurate hydrographic information was essential to enable them to operate with safety in the poorly charted coastal waters of the Solomons, New Guinea, and the Philippines.

Therefore, when preparing to move up to an advance base, the intelligence officer concerned himself to a great extent with a study of the waters and coastlines of the patrol areas newly assigned. Intelligence publications containing objective data were collected, full use was made of reconnaissance photographs, any available representatives of the coastwatchers or guerrilla organizations were consulted, and all Allied personnel with peacetime experience in the area were interviewed. The location of reefs, the depths of water just offshore, and the contour of the coastline in the area to be patrolled were matters fully as urgent to torpedo-boat captains as the position and capabilities of enemy coastal defenses.

After the move to an advance base was completed and the boats began their patrols in strange waters, the emphasis on obtaining hydrographic

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and coastal information was continued. Boat captains were expected to note, plot, or otherwise record such information during patrols. Reefs and other hazards in patrol areas were surveyed and charts corrected as quickly as possible. The contour and radar characteristics of islands and coastlines had to be ascertained. The questioning of boat personnel by intelligence officers yielded valuable information for future patrols. In addition to operational patrol experience, arrangements were made to obtain current aerial photo interpretation reports and to perfect liaison with the coastwatcher organization. New objective data, publications of the theater intelligence center, current translations of captured documents, and reports of prisoner of war interrogations were examined carefully. Unquestionably, then, the needs of the torpedo boats for hydrographic and other coastal information determined to a great extent the direction and emphasis of the intelligence officer's activities.

A second major influence on his functions was the lack of communication facilities at the advance base with which to handle the radio messages containing information on the rapidly changing enemy situation. The staff officer on higher echelons could depend on such messages as the main source of information regarding the progress of an operation, but the torpedo boat officer was forced to substitute extensive and continuous liaison with local command to obtain needed information on the enemy. The naval base commander was usually cooperative and gave the intelligence officer access to the base message files. The results of friendly air reconnaissance and strikes as they affected the enemy shipping situation and coastal defenses could be obtained from the local air command. Army and Marine intelligence officers willingly furnished facts concerning the progress of friendly ground forces and the disposition and movements of the enemy on land, all of which influenced enemy employment of surface craft for supply, evacuation, reinforcement, or redeployment of local forces. The local coastwatcher representative was an excellent source of information on conditions in enemy held territory, barge and small craft movements, routes and staging points, supply dumps, coastal defense, and enemy intentions for employment of surface craft.

Liaison with these and other organizations in the vicinity of the torpedo boat base was a daily matter. The information collected was used by the base commander in determining the best time and place for the operations of his command. Furthermore, the basis for the intelligence officer's briefing of boat captains prior to patrol was in large part furnished by the information gathered by liaison activities.

ASW AND ANTISUBMARINE INTELLIGENCE

Sea power is the ability of a nation to control transportation over the seas. Its only purpose and justification is its effect on the movements of the transports, freighters, tankers, and amphibious craft which carry nearly all the men and supplies that cross the seas. To gain and maintain command of the seas is thus the primary naval responsibility.

It will at once be obvious that antisubmarine warfare (ASW) is essential to the success of this mission. It is a first objective upon which we must concentrate our efforts. If it fails, our whole naval enterprise will fail; if it succeeds, we shall have reason to hope for victory. Without effective ASW, we cannot wage a major war overseas, for the sea lanes must be kept open.

It is common to think of ASW in its tactical aspect only, that is, the location and destruction of enemy submarines at sea. Such a view is too narrow. ASW may be conducted by strategic as well as tactical means. As here used, therefore, the term "ASW" will comprehend all efforts *to deprive the enemy of the effective use of its submarines*. There are many ways of effecting this mission other than finding and destroying enemy submarines at sea. We can, for example, prevent enemy submarines from being built or serviced by strategic bombing of bases and building yards, from reaching the open sea by strategic mining of restricted waters, from penetrating geographic areas by passive harbor defense and escort of convoys, and from making contact with our shipping by the convoy system. We can also simply keep enemy submarines submerged most of the time by assiduous searches and patrols whether or not any submarines are actually found and destroyed. Neither tactical ASW nor any of the several forms

of strategic ASW can succeed without adequate intelligence.

Capabilities and Limitations of Submarines

The advantages of submarines over other combat craft are, briefly: (1) invisibility and secrecy, providing the opportunity for surprise; and (2) endurance and long range.

For example, a submarine is capable of operating for long periods in enemy waters, unsupported and undetected. While there, it can perform any of a great variety of missions. Suppose that the mission is minelaying. In many situations, surface ships or aircraft would not be physically capable of reaching the designated area or of remaining long enough to lay mines, or would be capable of laying the mines only at the cost of their own destruction; and in any event, would reveal to the enemy by their movements where the mines were laid. Submarines also have a most important capability, serving as radar pickets for early warning of air attacks.

On the other hand, submarines have suffered from characteristic limitations on their powers of (1) perception, (2) communication, and (3) motion. All these limitations have been intensified when the submarine was wholly or partly submerged. Even with the use of its periscope and accompanying radar its horizon has been very close and its field of view very narrow. Its communication facilities have been deficient. As for motion, a submerged submarine has had very limited speed, and range, and its ability to maneuver has been subject to sufficient water depths.

In order to overcome these limitations, submarines have been forced to run on the surface a large part of the time, and when doing so, have lost their mantle of invisibility and have been exposed to their enemies. This, then, has been the submarine's dilemma: to be ineffective or to be vulnerable.

ASW in the Two World Wars

The Atlantic operations of German U-boats in two world wars exemplify the ability of the submarine to achieve disproportionate results in relation to the cost and effort expended.

At the height of U-boat warfare in 1915 and 1916, the Germans had an average of only 15 submarines at sea at any given time. This was a third

or less of their total strength, the other U-boats being in transit or training or in port. With only 15 U-boats at sea, they were sinking, on the average, about 200,000 tons of Allied shipping every month. The price they paid was the loss, on the average of 11½ U-boats a month—a profitable exchange. The final score for World War I was 11 million tons of shipping at the price of 178 U-boats. Each U-boat, therefore, accounted for nearly 62,000 tons of shipping. Thus they made an impressive showing, especially since the U-boat campaign in World War I was somewhat impromptu.

In the early years of its history, the submarine was not very seriously regarded as an attack vessel, being used chiefly for reconnaissance and patrol. Then, one afternoon in September, 1914, the U-9, engaged in a routine scouting mission, came by chance upon a British cruiser in the North Sea and sank it with a torpedo. Another cruiser, traveling in company with the first, came to pick up survivors and was also sunk with a torpedo. The third and last cruiser of the force, hurrying up to investigate, met a similar fate. In less than an hour, a single submarine had sunk three cruisers. Struck by this proof of offensive power, the Germans soon initiated undersea warfare on a large scale.

At first the U-boat skippers were chivalrous towards their victims, giving warning before they sank merchant ships. The advent of the Q-boats however, brought on unrestricted submarine warfare, in which merchant ships were sunk without warning, and submarine attacks, mounting in numbers and ferocity, threatened to overwhelm the Allied cause, until they were at last turned back by the system of convoy and escort.

In World War II the U-boat campaign had been planned and prepared long in advance. The U-boats themselves were much improved, being larger and faster, with greater endurance and using wakeless torpedoes. They soon secured bases on the French coast from which they could operate more effectively. Furthermore, they learned new tactics, such as working in wolf packs and coming through a screen of ASW ships at night on the surface at high speed.

It may seem surprising, therefore, that the U-boats achieved less relative success in World War

II than in World War I. The final score for World War II was 13 millions tons of shipping sunk, at the price of 751 U-boats. Each U-boat accounted on the average for a little more than 17,000 tons of allied shipping, as compared with nearly 62,000 tons in World War I.

This comparison reveals a striking historical process. It is obvious to hindsight, though perhaps it was not fully apparent at the time, that from April, 1917, when the convoy system was introduced, until the middle 1940's, the ascendancy of the submarine over its adversaries—its competitive position—was slowly declining. The decline was due to the system of convoy and escort, to certain less important procedures, such as zig-zagging, and to the World War II innovation of Air ASW and the hunter-killer system. It was also the cumulative effect of many technical improvements in the means of detecting and attacking submarines. All naval intelligence officers should understand the methods and devices by which, during this period, the submarine was kept within bounds.

It will be appropriate to start with the convoy system because of its importance and priority in time. It curtails losses by reducing the number of contacts that enemy submarines make, but it is costly as well, for it reduces the effective tonnage of our ships nearly a third by loading port facilities intermittently and by holding down the faster ships to the speed of the slower ones. Hence enemy submarines partly achieved their mission merely by forcing us to send our ships in convoy, since they thereby decrease our command of the seas.

Escort is the system of screening convoys or single ships with fighting ships or aircraft. Its effect is to reduce the number of successful submarine attacks for a given number of contacts. Like the convoy system, it exacts a heavy outlay of money, time, and labor.

In addition to the convoy and escort systems, a number of ASW devices were developed during World War I. The most important were listening and echo-ranging equipment and hydrostatic depth charges. These devices are familiar to all naval personnel. Listening devices or "hydrophones" are directional underwater microphones which detect and locate underwater sound sources.

Echo-ranging equipment (United States "sonar," British "ASDIC") is a device which propagates sound in water in order to detect and locate underwater objects by means of the echoes reflected from them. Bearing is determined by the train of the sound projector ("transducer"), and range by the time elapsed before the echo returns. Hydrostatic depth charges are explosive charges in canlike containers, equipped with fuzes which are fired by hydrostatic pressure and can be set for any depth (i. e., pressure) up to a maximum.

During World War II, the technical advances made in ASW were spectacular. Search radar was the most important. When carried in aircraft, it enormously extended the area of ASW search. It kept enemy submarines submerged, and when they surfaced, as they often had to do for air or for observation, it could detect them at great distances. Hydrophones evolved into sonobuoys equipped with radio transmitters which relayed the signals picked up by their listening devices to patrolling aircraft. MAD (magnetic airborne detection) equipment, responding to the magnetic field created by the submarine, made it possible for aircraft to pinpoint submarines underwater. An extensive direction-finder (HF-DF) system exploited the German lack of radio and radar discipline and provided us with a running master plot of submarine positions. In addition, depth charges developed into far more effective weapons: projectile charges and faster-sinking charges, equipped with contact or influence firing mechanisms.

The major ASW innovation of World War II, corresponding to the convoy and escort systems introduced in World War I, was the hunter-killer system. Actually, this was merely the most conspicuous form of a general trend away from attacks by individual ships or aircraft to *coordinated* ASW attacks. Postwar analysis has shown that coordinated ship attacks were more than three times as effective in World War II as single ship attacks. They have proved their usefulness, as have coordinated air and coordinated air-surface (CAS) attacks. In the hunter-killer system, the coordinated attacks were made by teams composed of one or more carriers, several ASW vessels, search planes (hunters) and attack planes (killers).

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By the middle 1940's, it seemed that the cumulative effect of all these ASW advances had proved too much for the submarine. To many observers, it looked as if the submarine might become obsolete as a weapon of war. Then the trend was checked and reversed. Technological changes took place which promised to restore the old ascendancy of the submarine. Fortunately, they came too late to have any effect on the outcome of World War II.

Submarine Development During and After World War II

By the end of World War II, the so-called "Type XXI" submarine, though not yet operational, had been perfected by the Germans. This was the prototype of present submarines. In essence it was simply a streamlined submarine equipped with high-capacity batteries and snorkel (from the German word "Schnorkel"), a stack extension which enables the submarine to breathe while submerged to periscope depth. Because of its streamlining and more powerful batteries, the Type XXI was capable of an underwater speed of 18 or 19 knots, as compared with 8 or 10 knots for its World War II counterparts. It had to use its batteries for motive power only when fully submerged. At periscope depth, it could run on its diesels, replenishing its air supply, at about 11 knots, and even if it slowed to 7 or 8 knots, simultaneously charge its batteries. Its underwater cruising radius was about 350 miles, or roughly five times that of ocean-going submarines in World War II. Lastly, it made use of various technical changes which resulted in much quieter operation. The changes exemplified by the Type XXI submarine have greatly magnified the effectiveness of submarines in attack, and then at the same time have greatly reduced their vulnerability.

Vulnerability is lower for several reasons. A submarine equipped with snorkel is extremely hard to detect; in fact, practically undetectable by radar and visual search. In the first place, it never has to surface at sea, and it has to snorkel only about one fourth of the time that a World War II submarine had to surface. In the second place, a snorkel head is a very much smaller object of search than a fully surfaced submarine. Because of its low noise level, the Type XXI and its successor submarines are also very hard to detect with

listening devices, including sonobuoys. Even if detected and attacked, because of their greater speed, these submarines have 8 times as much escape volume as World War II submarines available to them in a given time; and because of their greater underwater endurance, 25 times as much escape area, about 400,000 square miles, before they must again expose their snorkels.

Effectiveness in attack is increased, because the submarine can now approach its targets from a direction much broader on the bow or even come in directly astern of a slow convoy. It is easy to see how this capability will complicate the problem of escort. Screens will have to be larger, perhaps completely circular, perhaps multiple, and in any case will require a much larger number of ships and aircraft.

Of course, submarine development did not cease with the Type XXI. Subsequent improvements have been continual. Most have been in the direction of still greater underwater speed and endurance, and some have had to do with detection or communication equipment. Our own Navy has experimented with various specialized submarine types: the antisubmarine "Killer" (SSK); the submarine oiler (ASSO); the guided-missile submarine (SSG); the radar picket submarine (SSR); the cargo submarine, amphibious (ASSA); the transport submarine, amphibious (ASSP); and the atomic or nuclear-powered submarine (SSN).

The last of these, the atomic or nuclear-powered submarine, when operational, should prove to be at least as radical an innovation as the Type XXI. It would be the fastest of all ships. If produced in numbers, it will present new problems in the employment of surface vessels.

ASW Since World War II

Since World War II there have been many improvements in ASW detection devices and weapons, but no major innovations. Shipboard sonar has been much improved by the introduction of the integrated sonar system. In this system, a "scanning sonar" provides simultaneous all-round search, which is presented on a cathode-ray screen. The ASW officer is directly given all the information he needs for conning an attack: bearing, horizontal range (from his ship to a point on the

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surface directly above the submarine), target depth, and time to fire. In computing horizontal range, the integrated sonar system automatically corrects slant range, measured along the sonar beam, for refraction caused by certain temperature differences in the water. There is no doubt that this equipment represents a solid ASW achievement; if introduced during World War II, it might have proved decisive.

Sonar has also been adapted for use by blimps and helicopters. Although such use is drastically limited by wind and sea conditions, air-borne sonar is inherently superior to shipboard sonar because it is free from interference caused by reverberation and hull echoes. When carried by aircraft, sonar may be towed through the water, or it may be "dipped," that is, lowered into the water, used for search, raised, and moved to another search point. It seems quite probable that sonar-equipped helicopters, in particular, will be widely used for ASW escort. In addition to greater sonar ranges, they offer the advantages over conventional escort ships of economy of means and relative invulnerability to submarine attack. Directional as well as nondirectional sonobuoys are now available. Sonobuoy information is presented on cathode-ray screens for ready use.

Since World War II, search radar has undergone steady improvement. Assiduous radar and visual search, especially from the air, continues to be one of the chief means of detecting submarines and keeping them submerged. In practice, however, it fails to attain its theoretical effectiveness, owing to limitations of equipment and personnel, and above all to adverse atmospheric and sea conditions. In sea states of 3 and above, the probability of detecting a snorkel by visual or radar search, whether from shipboard or from the air, is extremely small.

The detection range of MAD has been increased almost to its expectable limit. This type of equipment, however, is susceptible to magnetic interference and to countermeasures. Furthermore, its horizontal range is rather narrow. Hence, though MAD has proved to be good follow-up equipment, it is not efficient for primary search. It has been successfully used: (1) for barrier patrols in restricted waters; (2) to investigate suspected submarine locations; (3) to regain contact; and (4)

for deliberate attacks, after contact has been made by other means.

RCM/ECM equipment is essentially a radar or radio receiver used to detect transmitting enemy radars or radios. It is capable of great range, assuming that an enemy is in the vicinity and is transmitting. Even when no contact is made, the continuous use of RCM/ECM produces useful results by curtailing enemy radar search and limiting the length and frequency of enemy radio transmissions. Post-war improvements in this field appear to have been minor. Refinements in the types of equipment described above, and other detection methods exploiting similar principles, are undergoing more or less continual research, development, and test.

The development of ASW weapons has continued, as during World War II, in the direction of fast-sinking charges, which may have magnetic or acoustic influence or contact as well as hydrostatic firing mechanisms and may be thrown in patterns or in rapid succession. Antisubmarine homing torpedoes have also been developed. They have "listening" or "pinging" heads and can search for submarines along a curved or zigzag path of variable depth.

Lastly, it should be mentioned that all these ASW detection and attack devices have given rise to countermeasures. Some countermeasures merely involve appropriate action, such as going deep, assuming an East-West heading and increasing speed to avoid detection by MAD, or running silently and deep to avoid detection by sonobuoys. Others consist in using evasion devices, such as towed noisemakers and sonar decoys.

In the future, submarines can be expected to have and use evasion measures of many kinds, each designed to baffle one or more specific ASW detection or attack devices.

The ASW Problem

Owing to the higher speed and longer underwater range of which submarines are now capable, tactical ASW, that is, the location and destruction of submarines at sea, must receive special attention. In order to be effective it will certainly require a vigorous effort on a vast scale.

There is little doubt that the latest submarines are beyond the reach of the ASW methods used

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in World War II. Furthermore, such success as we did achieve with those methods was due in large part to German deficiencies. Notably, the Germans permitted their submarines to transmit excessively by radio and failed to support them adequately with air or surface forces. It is not safe to assume that a future enemy will oblige us by committing the same errors. The tasks that ASW must perform are locating enemy submarines, attacking them successfully, and protecting our shipping.

The major present weakness of ASW is the initial detection and pinpoint location of submarines underwater. Unless its approximate location is known or suspected, a submerged submarine, or even a snorkeling submarine in a high sea, is practically undetectable. Furthermore, submarines will no longer need to expose even their periscopes and snorkels except for very short and infrequent intervals.

The average range at which a submarine can be detected underwater, about 1 mile, is far shorter than either the range at which a submarine can plot and track a convoy, about 6 miles, or the range of submarine torpedoes, up to 7 miles.

By hypothesis, location is an intelligence problem. Failing the development of longer-range methods for initial pinpoint detection, it seems certain that we will have to rely very largely on intelligence of the approximate locations and movements of enemy submarines at sea, using every possible means to keep track of every enemy submarine from the time it is built or launched.

It seems equally certain that ASW screens must be extended farther away from the convoys they protect and will for this reason among others require a larger number of screening ships. The magnitude of this requirement may be seen from the fact that even in World War II more than 1,000 escort ships and 1,000 ASW aircraft were needed to cope with about 100 U-boats.

Another major ASW weakness arises from the increased space available to submarines for evasion, because of their higher speed and longer underwater range, after the attacking ship has lost contact or has committed itself by firing its attack weapons. This problem may be met, in part, by coordinated operations in which one ship or surface craft continues to hold contact while

the other attacks. Such operations depend for their success on good communications and intelligence. The problem may also be partly solved by the development of attack weapons which in effect shorten the evasion time or otherwise reduce the evasion space. Thus, faster-sinking depth-charges and projectiles or self-propelled missiles shorten the evasion time; homing torpedoes reduce the evasion space by enlarging the target to the size of the actuation (i. e., homing) space; and larger depth-charge patterns or more powerful (e. g., atomic) depth-charges or underwater bombs reduce the evasion space by increasing the effective radius of the blast.

The most extensive change resulting from the greater difficulty and reduced effectiveness of tactical ASW may well be the shift of a large part of our antisubmarine effort to strategic ASW. The forms which this shift is likely to take have already been described. Even more pertinent to this discussion, however, is the coming emphasis and dependence on antisubmarine intelligence.

MINE WARFARE

Mine warfare has been defined as "the strategic and tactical use of mines and mine countermeasures in the conduct of war." The subject includes offensive and defensive minelaying, the measures for mine clearance (of one's own or the enemy's mines), and protection against mines. No amount of wishful thinking has succeeded in preventing the use of mines in war when they will serve a needed purpose. One of the belligerents may forego use of them to his own disadvantage, but he cannot control the enemy's actions sufficiently to ensure that mines will not be used against him. Under proper conditions mining can be very effective as a brief review of its history will reveal. The advent of aerial mining has greatly increased the effectiveness of offensive mining. Mining capabilities made great progress in the past war, but their limit was by no means reached.

Historical Development

Mine warfare has affected the outcome of wars since the days of the American Revolution. Mines were referred to as torpedoes until shortly after the Civil War. The results obtained from their use is of interest. During the Revolutionary War,

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David Bushnell attempted to explode charges under enemy ships at New London and Philadelphia. Although the actual attempts were not successful, they did alarm the British captains to such an extent that they left with their ships. Again in the Civil War, Farragut actually was damming mines, when he said "Damn the torpedoes." It is also interesting to note that during the Civil War 27 Union ships were sunk by mines, whereas only 9 were sunk by gunfire.

However, it remained for the Russo-Japanese War to show the first great promise of mines as an offensive weapon. Both the Japanese and the Russians mined extensively in areas under the other's control, resulting in heavy losses to both sides and leaving both countries very mine-conscious. There are indications that the Russians still are.

World War I brought the first large scale use of mines. During that war the Allies undertook extensive mining activities including the famous North Sea barrage of about 73,000 mines, but the really significant mining was carried out by the Germans. They laid about 45,000 mines offensively in and around Allied harbors and other focal points of Allied shipping. The results were spectacular: 586 Allied merchant vessels totaling 1,000,000 tons, and 44 British war vessels together with 225 naval auxiliaries were lost in the minefields.

In spite of this experience there remained in most countries a tendency to regard the mine only as a defensive weapon. Some ventured to consider the possibilities of a drifting mine as a tactical weapon, but generally speaking, not much thought was given to using the mine offensively.

When World War II broke out, Great Britain immediately commenced a defensive mining campaign. She laid two important defensive fields. The first was an antisubmarine barrier along her East Coast. German submarines abandoned the area shortly after the minefield was announced and before any appreciable number of mines were ever laid in it.

It had been planned to lay another field between Scotland and Norway, but the German occupation of Norway prevented that. So instead, a large mine barrage was extended northwest of Scotland toward Iceland and Greenland. The intent of

these fields was much the same as the old North Sea barrage. The result has been difficult to determine but their presence was of serious concern to German submarines and aided considerably in the antisubmarine campaign.

The United States defensive minelaying effort in World War II is outlined in the 26 September 1945 issue of the "ONI Weekly" as follows:

Ten thousand moored contact mines were laid by the Navy during the early days of the war to prevent the enemy submarines menacing our coast from penetrating important anchorages, convoy assembly points, and refuge areas. . . .

Operations began on the East Coast in January 1942 when a field of 365 mines was laid at the entrance to Chesapeake Bay. . . .

At Key West, 3,460 mines were laid in April and May 1942 to form a protected convoy assembly area. . . .

In May 1942, 2,635 mines were laid near Cape Hatteras to form a protected refuge and convoy area. . . .

At Trinidad, 991 mines were laid in April 1942. In June 1943 an additional 400 mines reinforced the field. . . .

In July 1942, 575 mines were laid at Kodiak to protect a naval operating base and between September and November 1942, several fields totaling 1,532 mines were laid at Adak to prevent a Japanese invasion of the island. . . .

Those minefields were excellent examples of defensive mining. But it remained for Hitler to open the world's eyes to offensive mining. At the beginning of the war the Nazi dictator had bragged of a secret weapon which he said would win the war for him. Everyone wondered what the weapon would be: the British soon found out.

One day in September 1939 a British ship was sunk while steaming through what was thought to be a swept channel. More sinkings followed and the British became alarmed. The cause was finally found to be magnetic mines, dropped by German aircraft, of a new type which sank to the bottom and exploded only when the magnetic field of a steel ship passed over them. The story of the recovery and analysis of these mines and the development of the necessary sweeping gear is a heroic tale. Fortunately, the Germans did not lay many of the mines until the spring of 1940, and by that time the sweeping problem had been solved. It has been estimated that if the Germans had de-

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layed introduction of their magnetic mines until they could lay them in large numbers, the effect on the British would have been disastrous. Their premature introduction is considered to have been one of the major German mistakes in the early period of the war.

When the Germans found the British sweeping their magnetic mines, they devised new complications. They introduced a ship count device which prevented the mine from firing the first time a sweep went over it. It could be set to fire upon 1 of 6 actuations. The effect of this was obvious. The mine figuratively thumbed its nose at ships or sweepers until it was ready to fire. It meant that sweepers had to cover an area at least six times to make certain that it was mine free. Next, a delay arming mechanism was introduced. This would allow the mine to become active at any time up to 6 days. It necessitated continuous sweeping for 6 days after a minelaying raid and then six complete sweeps after that. The effort required to combat all these new devices was enormous, and minesweeping turned out to be one of the major British naval activities of the war.

The trouble caused by German mines was enough to convince the British of the value of offensive mining and they undertook an extensive campaign of their own. Their fast cruiser minelayers regularly laid minefields off German occupied ports in France, and their submarines laid mines off the coast of Norway. But the really effective minelaying was done with aircraft. More than 42,000 were aurally laid in German waters with the result that more than 1,500 German ships were sunk or damaged. Of significance was the fact that the Germans were forced to employ 2,500 ships and 42,000 personnel in the minesweeping effort.

In the Pacific, a well organized mining campaign was executed against the Japanese outer zone. It commenced early in the war and continued to the end. Allied aircraft, submarines, and surface layers participated. Submarines laid mines throughout the central and southwest Pacific. Surface layer DMs did most of their mining in the Solomons' area, and aerial mining campaigns were conducted from China, Southeast Asia, and the Central, South, and Southwest Pacific theaters. None of these campaigns in the

outer zone was large scale, but they were persistent and widespread, and when considered with submarine torpedo attacks and aircraft bombing, they formed a well-balanced attack on Japanese shipping. It is interesting to note that the submarine mining campaign netted 27 ships sunk and 27 damaged, a combined total of over 150,000 tons.

The Japanese laid a vast minefield in the East China Sea, west of the Nansei Shoto, and throughout the war this field protected their shipping in that area. Japanese mines were also scattered in the Yellow Sea and minefields effectively guarded the entrances to the Sea of Japan until the closing months of the war. The loss of 3 American submarines was almost certainly caused by mines, and 5 others that failed to return from patrol may have met a similar fate.

Allied minesweepers performed ably in the Pacific, and in shallow waters where the YMS (motor minesweeper) could not safely work, underwater demolition teams operated with the amphibious forces. Special mine disposal units joined in the clearance tasks, and shallow-draft landing craft were fitted with light emergency sweeping gear to assist in these operations.

In March 1945 the 20th Air Force began a mine campaign designed to end shipping in Japanese coastal waters, the major target being Shimono-seki Straits. Eventually all important Japanese and Korean seaports were mined by the B-29's and over 670,000 tons of shipping were sunk or disabled by this tremendous barrage. The Japanese were unable to clear the clogged channels. Acoustic, pressure, and magnetic mines, and their type variations, were not easily swept up and the Japanese lacked equipment for the task.

In conjunction with this offensive mining campaign, United States submarines entered the Sea of Japan with a new mine-detecting device that neutralized the Japanese minefields defending that body of water. With her defensive fields impotent and her ports blockaded by submarines and mines, Japan found herself in a vise.

In the United States Strategic Bombing Survey's "Interrogations of Japanese Officials, volume I," a Japanese naval officer has this to say in regard to the American mine attack on Japan:

From the standpoint of the blockade of our bases of operations, the isolation of chief re-

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sources supplying areas, the interception of supply routes and the blockade of important points on lines of communication, the mine attacks were quite effective—it cannot be denied that they were one of the main causes of our defeat.

The use of mines by the Communist forces in the Korean conflict again demonstrated the importance of mine warfare. The Reds proved that a few innocent-looking sampans and fishing junks employed to lay mines are capable of disrupting the operations of mighty armadas of modern warships. In October 1950 a minefield off the port of Wonsan, North Korea, delayed for 8 days the scheduled invasion of that port by a large United Nations amphibious force.

Types of Mines

In order to appreciate the complexities of mine warfare it may be appropriate to consider briefly the types of mines employed in World War II. There are three general types of naval mines: the ground mine which rests on the sea bottom, the drifting mine which floats at or near the surface, and the moored mine which consists of a buoyant case moored to the bottom by an anchor and cable. The firing or actuating mechanism for mines may be one of three general types: *controlled*, which is fired by an observer in a remote control station; *contact*, which is fired by direct contact with the mines themselves; and *influence*, which is actuated by some change in the physical surroundings of the mine.

Three basic types of influence firing mechanisms came into use during World War II; *magnetic*, actuated by the magnetic field which surrounds a steel ship; *acoustic*, actuated by the underwater sound from a ship; and *pressure*, fired by the change of pressure which results from the flow of water around a moving ship in shallow water. Combination type mines may be made by combining any two or three of these separate types of firing mechanisms. Such a mine has the advantage of greatly complicating the sweeping problem of the enemy. This is attested to by the comments of a Japanese naval officer contained in the USSBS volume cited above:

One thing that caused us much trouble was the combination of two types of mines, combination of magnetic-acoustic and the magnetic-

pressure mine. By the end of the war we were left with a lot of research being done but no real effective countermeasure being produced in quantity.

Intelligence in Mine Warfare

As in all phases of naval warfare, the intelligence officer has a contribution to make to mine warfare. First and foremost, he must keep his commander informed as to the enemy's mine warfare capabilities. He must know the types of mines which may be employed, the extent to which they may be employed, and if possible, the areas which may have been mined by the enemy. The analysis of late model enemy mines by technical intelligence personnel may lead to improvement or modification of our own mines or mine countermeasures.

A great amount of detailed intelligence concerning the area of operations, such as depth, temperature, and salinity of water, tides and currents, and coastal topographic data, must be furnished to the forces engaged in offensive minelaying. The mine forces in turn may in many instances be able to collect valuable information concerning the enemy and the area of operations. They should not be ignored as a vital collection agency, for in many amphibious operations they are the first naval forces to enter the objective area and may be able to furnish the latest information on enemy activity, location of enemy defenses and beach obstacles, and inshore hydrographic data.

At present, indications point to an increased effectiveness of offensive mine warfare. In a little less than a century the mine has developed into a potent undersea weapon. Employed offensively and defensively it has turned the tide of battles, frustrated invading forces, and destroyed naval vessels of the largest class. In all probability minefields will continue to guard important harbors and channels against invasion and will constitute a threat to wartime shipping. No modern naval commander would dare to defy the menace with a mere, "Damn the torpedoes, full speed ahead!"

AIR INTELLIGENCE

Air intelligence has been defined as "intelligence pertaining to the offensive and defensive capabilities of foreign countries and their vulnerability to

air attack which is required by commanders to plan, train for, and execute operations involving or affected by air power." Thus air intelligence finds its needs and applications in all types of operations that either directly or indirectly involve the use of air power.

Air Power

The air power of a sovereign state is determined by the compilation and analysis of several sets of figures and facts. It becomes meaningful when presented in terms of numbers of aircraft and the static ability to utilize and to replace them. Numbers of aircraft in themselves are not particularly significant, but when collated with such other considerations as types, performance characteristics, availability, and operating personnel, the relative importance of a given nation's air power is established.

Air power is therefore dependent on the capabilities of the following elements:

1. The air force in being, which consists of military aircraft, personnel, and establishments.
2. Air transport, which is composed of civilian air transport, personnel, and establishments.
3. The aircraft industry, which comprises the manufacturers of aircraft, aircraft parts, and accessories. It is devoted primarily to air transport production in peacetime. In time of war, it is concentrated on the manufacture of military aircraft.

Air Force Basic Tasks

The basic tasks for which the United States Air Force must be prepared constantly are:

1. Destroy hostile air forces, which includes air defense of the United States.
2. Deny the establishment of and/or destroy existing hostile bases from which an enemy can conduct operations on land, sea, or in the air.
3. Operate against hostile land or sea forces, the location and strength of which are a threat to the vital interest of the United States and her allies.
4. Wage offensive air warfare against the source of strength (military and economic) of the enemies of the United States and her allies in the furtherance of approved war policies.

5. Operate as a part of the task force in the conduct of military operations.

Mission of Air Intelligence

The mission of operational air intelligence is threefold:

1. To procure, process, and disseminate information of the actual or potential hostile forces, the area of air operations, and any other usable information which could assist the commander in arriving at timely and sound decisions.
2. To brief aviation personnel prior to all flights on the type of flight, operating area, targets, flak, flight routes, expected air opposition, types of hostile aircraft, communication procedures and call signs, own and hostile ships and aircraft in the area, search and rescue procedures, evasion and escape information, navigation, aerology, and any other information pertinent to that flight.
3. To debrief returned aviation personnel on all aspects of the completed flight, such as hostile ships and/or aircraft in the area, results of air-to-air and air-to-surface combat, ground installations, troop movements, etc.

In principle, air intelligence has the same characteristics and properties as any other type of intelligence, and the intelligence cycle is equally applicable to its activity. Its subject matter, however, comprises a special field and deals with special items of information, which in many cases require special handling and dissemination in forms which are not necessary for other types of intelligence. A basic knowledge of air intelligence is essential to the professional competence of all naval officers.

Air Operations

An examination of some of the aspects of air operations will help in understanding the functions of air intelligence.

Air operations encompass a tremendous subject. When one considers the fact that large task forces are composed for air operations alone, the term assumes its true meaning and scope. Probably no type of warfare has made more rapid progress than air warfare, and as a result air operations

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have similarly been extended to include a great number of tactical and strategic missions from both fixed and mobile bases.

Carrier Air Operations

At the present time the primary offensive weapon of the United States Navy is the carrier task force. Such forces are organized to accomplish a specific mission, being highly mobile and able to change their composition and disposition in a short period of time. They are capable of conducting modern warfare in accordance with the highest attainable standards utilizing the latest aircraft, ships, and special weapons. They can strike at the heart of hostile forces and can cruise close to hostile shores and launch devastating offensive air strikes against inland as well as coastal targets.

Carrier-based aircraft are divided into several categories depending upon their primary mission and comprise such varied types as fast fighters, attack aircraft, antisubmarine aircraft, semirigid airships (blimps), and helicopters. The intelligence officer must be familiar with the types of friendly aircraft operating in his area, their flight characteristics, and performance in order to utilize the aircraft either directly or indirectly available to him for the collection of information about the enemy and the area of operation. Through proper employment of available personnel and aircraft in collection and on-the-spot evaluation of information, tactical operational intelligence is obtained during engagement with enemy forces.

The information collected by carrier-based aviation personnel through observation and photography covers many components of both operational and strategic intelligence, such as:

1. Enemy aircraft in the area: numbers, types, performance data.
2. Air installations: location, size and capacity, facilities and possibility of expansion.
3. Ports and port facilities.
4. Troop movements and ground installations.
5. Ships and ship movements, both naval and merchant.

Land Based and Patrol Air Operations

Land based air operations differ greatly from carrier air operations for a number of reasons.

They place the greatest emphasis on search, patrol, logistic support, and the delivery of special weapons too bulky or heavy to be adequately handled aboard carriers. Land-based and patrol aircraft are usually larger, slower, and have a greater combat radius than those flown from carriers. However, with the introduction of the new flush-deck carrier, aircraft which thus far have operated only from stationary, distant airfields will transfer to the highly mobile deck of the carrier. The information available to the intelligence officer from land-based and patrol aircraft is similar to that available from those which are carrier-based.

Air Intelligence Production Divisions

Air Combat Intelligence (ACI) was established by the Chief of the Bureau of Aeronautics early in 1942. Prior to that date the Navy had no specialists in this field. Since the application of intelligence to war in the air was more clearly a function of aeronautics than of the Office of Naval Intelligence as it was organized at the time, ACI was established in the Bureau of Aeronautics. Subsequent developments during World War II modified these earlier concepts to such an extent that ACI has now been transformed into the Air Section, Intelligence Branch, of ONI.

Because the work of this section is so closely related to that of the Air Force's Intelligence Directorate, former joint committees have been replaced by a single integrated activity, for both services known as the Air Intelligence Production Divisions, staffed by both Navy and Air Force personnel.

Responsibilities of the Divisions include all the phases of the intelligence cycle as they apply to air, as well as foreign liaison and planning. They are the nerve centers of United States air power to which all information flows, where research is conducted, and from which estimates emanate.

Air Intelligence Officer Program

Since the development of air intelligence billets in World War II, the Navy has felt that air intelligence officers should be specially equipped for their duties. During World War II, officers were trained at Quonset Point, R. I., for assignments to air combat intelligence billets. These officers

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served with all types of operational squadrons as well as with staffs located both ashore and afloat. The significance of their contribution has been attested by all who had occasion either to work with them or to review the results of their work.

At the end of World War II, the school at Quonset Point was discontinued and most of the air combat intelligence officers were released from active duty, since the majority were reservists. There was actually little need for such specialists during the interim period between the close of World War II and the outbreak of the Korean conflict.

The war in Korea and subsequent international developments again created a need for specially trained air intelligence officers. Profiting from World War II experiences, but well aware of changes dictated by current needs, the Navy re-established a school designed for their training. The older designation, air combat intelligence officer, was changed to air intelligence officer, which is more descriptive of the present broad scope of their responsibilities and the services they render.

As a rule, air intelligence officers are selected on the basis of aviation experience, either as pilots or in activities closely related to naval air operations. In time of ostensible peace, some of these officers are assigned to Naval Reserve organizations to help train Reserve air intelligence personnel.

Air Intelligence Officer Duties

In actual practice, probably no two air intelligence officers perform identical functions either qualitatively or quantitatively. This is due to differences both in command missions and individually assigned tasks. In general, the duties of an AIO fall within the steps of the intelligence cycle: collection, processing, and dissemination of intelligence in support of the commander, and a further discharge of the same responsibilities in relation to ONI.

These duties, when stated more specifically for the air intelligence officer, include the maintenance of air intelligence files, the establishment of a reference library, the collection and dissemination of target information concerning areas of operation, the maintenance of situation plots, briefing the commander and other authorized aviation per-

sonnel, the debriefing of aviation personnel, the preparation of action reports, assistance in operational planning, and miscellaneous collateral duties such as the preparation of squadron war diaries, recommendations for awards, and such other duties as may be assigned from time to time.

The foregoing list is in no way complete, for the duties will vary depending on the relative command position of the unit the AIO serves. At higher levels, most of his efforts will be directed toward planning. At lower echelons, he will probably concentrate on preparing his unit to execute the plans received.

At the squadron level, the primary duty of the AIO is to brief and debrief aviation personnel. At the staff levels, he will be primarily concerned with planning functions, such as the preparation of intelligence estimates, command briefing, the writing of intelligence annexes to operation orders, and the supervision of photographic reconnaissance. AIO's attached to intelligence centers process intelligence reports and disseminate them to all echelons of command.

One of the most important duties of any air intelligence officer is the direction of the air intelligence effort. This involves both comprehensive planning and effective administration.

Sources of Information

Just as pilots and aircrewmembers are dependent on the information and materials made available by the AIO, he in turn relies on them for augmenting the basic information prepared and disseminated by AFOIN and ONI. In time of war, theater intelligence centers provide the operating AIO's with additional intelligence pertinent to current operations. The products of such centers might include current situation plots, photo interpretation reports, special objective studies, enemy order of battle, reconnaissance, and evasion and escape reports.

It is significant to note that as aircraft capabilities increase, both in range and fire power, additional forms of intelligence become "air" intelligence. This particularly applies to sociological intelligence, interior terrain studies, enemy ground order of battle, and air technical intelligence. In light of recent technological developments, the

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AIO will do well to consider *all* sources of intelligence production as potential sources of air intelligence.

AIR TECHNICAL INTELLIGENCE

The following news item from the Washington *Star* of 3 November 1951 serves as a summary of the vital role of air technical intelligence:

RUSSIAN WEAPONS CAREFULLY STUDIED IN U. S. LABORATORY (AP)
 Dayton, Ohio, Nov. 3, 1951. . . .

The Air Force is peeking over Russia's shoulder—in a laboratory.

The laboratory is the United States Air Force Technical Intelligence Center at nearby Wright-Patterson Air Force Base. What goes on there is so secret even workers themselves cannot get in the restricted area "without special code numbers on their passes."

An electric "code verifier" flashes like a metal detector in a prison when each of the workers check in or out. Armed guards will stop you if you walk 10 feet inside the area without an escort.

A carefully screened, select group of officers and civilians work at the center. Engineers, photointerpreters, metallurgists, scientists, and specially trained evaluation experts of all kinds are putting the enemy under the microscope 24 hours a day, studying North Korean Communist equipment as well as Russian equipment.

Findings Kept Secret

What these technicians do, the technique they employ and how much they learn is a secret locked behind the laboratory fences. But, their prime job is to get every bit of technical information about the enemy, evaluate it, and make the information available to our fliers in combat.

More than 100 tons of captured North Korea, Chinese Red, and Russian equipment have been shipped thousands of miles from the fighting zone to the Ohio intelligence center. Some was flown here. More came by ship.

One big item is a MIG-15 jet fighter taken by an air intelligence team shortly after it was shot down in Korea.

"It was fairly intact," an officer said, "but there wasn't enough to warrant reconstructing it and flying the machine."

The officer explained, however, the Air Force could build a MIG-15 and fly it, if it wanted to. There's another MIG-15 at the

base these days. But it's a pile of junk now. A mass of turbine engine cowlings, wires, seats, tailpipe from a jet engine, rudder fin and elevators stacked in a storeroom. It was more complete when they got it, but they took it apart and studied it, piece by piece.

Much Is Learned

Col. Harold E. Watson pointed to the pile of junk:

Sure, we learned a lot of things about it. But we're only telling our own interested agencies. That's what makes our work so tough. It isn't that we're afraid to tell the Russians about the MIG. They know all about it. But they don't know how much we know.

The warehouse looks like a Russian junk-pile, with here and there supplies of intact equipment. There are racks of clothing worn by North Korean Navy, Air, and Army officers.

There are oxygen masks, gloves, flying jackets, boots, helmets, new engines of a reciprocating type used by Russians in transport planes.

In a warehouse cubbyhole is a partly intact Russian IL-11 two-seater trainer. The wing is in good condition. The fuselage, however, is partly shot up.

MIG Guns Checked

Just a junk heap? Yes, but it told United States experts many things. For instance, the plane was armed. Allied trainers are not.

What kind of things do the experts learn when they peer over the shoulder of the Russian bear?

Well, the warehouse has some machineguns taken from the Russian MIGs. They are larger and heavier caliber than the guns in our F-86 Sabre jets. But they fire less rapidly and the Sabre has more guns.

Maybe that is one reason American jets are shooting down MIGs in Korea today.

INTELLIGENCE IN AMPHIBIOUS OPERATIONS

During World War I, naval operations for the most part involved antisubmarine warfare, escort of convoy, and fleet actions. The intelligence officer aboard ship was usually an assistant operations officer on a staff or the head of a department of the ship itself, and his intelligence work became merely a collateral duty as the need arose. He was to keep his flag or commanding officer advised on enemy locations and movements, and his infor-

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mation was for the most part received from scouting units and intelligence sources ashore. Air reconnaissance was in its infancy, and amphibious operations, as distinguished from raids, were not contemplated. It was not necessary to storm the beaches of Europe, inasmuch as France was then an active ally and transports could land their troops at her ports.

During the amphibious operations training conducted by the Marine Corps between World War I and the beginning of World War II, it became evident that the sources and collection agencies of intelligence, normally used by ground forces, would have to be improved upon and expanded in order to meet requirements peculiar to an amphibious operation. It was found that although the principles of intelligence remained the same, new methods and techniques for the collection and dissemination of enemy information would have to be developed and perfected before an amphibious operation could be put into effect with any reasonable expectation of success. Continuous experimental work, diligent training, and combat experience resulted in the present concept of intelligence in amphibious operations. Lessons learned early in World War II, beginning with Guadalcanal in August 1942 and extending through the landings in North Africa and Sicily, were invaluable for the planning and conduct of the amphibious landings in Normandy in June 1944.

It was realized during these early phases of World War II that the amphibious operation was complex, involving air, sea, and ground units, and that intelligence officers had to be trained for these special activities and rushed to the fleet as quickly as possible. By the conclusion of World War II, the succession of landings in the Philippines, on Iwo Jima, and on Okinawa pointed conclusively to the fact that all previous experiences had been carefully studied and utilized advantageously.

Since World War II, developments in electronics, aerial reconnaissance and photography, underwater demolition techniques, surface and underwater craft, and improved maps and charts have resulted in a more thorough, accurate, and timely system of collecting and disseminating enemy information and intelligence during the planning and execution of an amphibious operation. The continuous research and training has

eliminated a great number of the uncertainties that endangered success in the past. However, there still exists the need for more accurate information about the hydrography, trafficability of the beach, and other pertinent information of an objective area, as was shown in Korea during the planning for the Inchon landings in September 1950. Despite the fact that United States Occupation Forces had at one time been located in the proposed objective area, there was a definite lack of information on which to base the planning. It has become evident that the time to obtain most of the necessary information is during peacetime or other periods when areas are accessible.

Intelligence Planning for Amphibious Operations

Since an amphibious operation is joint by nature, all intelligence material of common interest must be procured jointly. All echelons have a common interest in matters such as landing beaches and their approaches, defensive beach installations, enemy coast defense and antiaircraft guns, air fields and their defenses, weather conditions, visibility, natural and artificial obstacles, currents, tides, surf, and other hazards to landing. Unified action eliminates costly duplication of effort and effectively utilizes the combined collecting facilities of the land, sea, and air components.

In preparation for joint operations, the production of intelligence from all sources must first be carefully planned and integrated at theater level to prevent incomplete coverage, needless duplication, and leaks in security. The search for information must be continuous, and the production and dissemination of intelligence must be expedited to insure the factor of timeliness.

The greatest problems in intelligence for amphibious operations arise during the planning phase. A great distance often separates the mounting and the objective areas, the landing forces are not in contact with the enemy, the majority of the available collecting agencies are not organic to the landing force, and a relatively long period of time is required for planning prior to the execution of the landing during which the enemy situation may undergo many changes.

Sources of Amphibious Intelligence

The available information upon which planning will be initiated is obtained from departmental or

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theater intelligence agencies and research sources. The publications of a number of governmental agencies provide intelligence of a background nature for planning an amphibious operation:

1. Central Intelligence Agency: Comprehensive surveys and studies.
2. State Department: Information of political, economic, and sociological nature.
3. ONI, G-2, and AFOIN: Information of foreign military forces.
4. Army Map Service: Maps for the Armed Forces.
5. Army Corps of Engineers: Strategic engineering studies.
6. Navy Hydrographic Office: Hydrographic charts and studies.
7. Photographic Interpretation Center: Photographic intelligence studies and operational aids.
8. Aeronautical Chart Service: Aeronautical charts.

As planning progresses, more dependence will be placed upon theater, fleet, and organic landing force agencies for further information. Specialist teams may be available from the theater intelligence agencies for assignment to the landing forces, such as translation and interpretation, technical intelligence, and counterintelligence. For the Inchon landings in Korea, the 1st Marine Division used the 163d Military Intelligence Service Detachment and the 441st Counterintelligence Corps Team. Both of these specialist teams were furnished by the Far East Command and were composed of United States Army commissioned and enlisted personnel with such Korean nationals as were required for liaison interpretation and translation purposes.

The intelligence sections of the amphibious forces and group staffs of the fleet also produce and disseminate intelligence necessary for the success of an amphibious operation. These agencies normally are based aboard amphibious force flagships (AGCs) equipped with complete reproduction facilities for printing maps and charts, developing negatives, printing ground or aerial photographs, and processing motion picture film. In addition, the intelligence sections of the amphibious staffs include language and photographic interpretation personnel and other intelligence

specialists who can render considerable assistance to the landing force units in acquiring and processing information. An intelligence officer may be assigned the responsibility of target location, target identification, and damage assessment. The Target Information Center, operated by the staff intelligence section, is the repository for all pertinent known information on targets of interest to naval gunfire and air support. During operations target information is kept current by recording results of naval gunfire and air strikes. New targets, reported by aerial reconnaissance or photographic interpretation, are immediately referred to fire support ships and supporting aircraft. A card index of all known targets is maintained by the Target Information Center. Targets are numbered and listed according to areas of responsibility. As information on specific targets is reported by support ships and aircraft, the results are recorded on the cards and also plotted on a target map for immediate visual reference. TIC generally prepares daily for transmission to the ships a list of those targets destroyed or remaining in each area of responsibility.

Aerial Reconnaissance

Aerial reconnaissance is a primary source of information for the planning of an amphibious operation and often may be the only means of augmenting background information furnished by departmental or theater agencies. Requests for aerial reconnaissance should be exact and detailed and submitted as early as possible to enable aerial reconnaissance missions to be coordinated with other missions. Aerial reconnaissance can be used to obtain valuable information of the enemy and the objective area. However, there are certain restrictions imposed by inclement weather, darkness, antiaircraft artillery fire, hostile combat aircraft, concealed terrain, and inexperienced observers.

Aerial reconnaissance may be divided into visual, electronic, or photographic; of these, photographic reconnaissance is more widely used for planning purposes. It is highly desirable that aerial photographs of landing beaches and adjacent areas be available early in the planning phase. The procedures and techniques of photointerpretation have been previously described.

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Fleet Units

Cruisers, destroyers, motor torpedo boats, landing craft, rubber boats, and submarines may be used to reconnoiter areas selected for operations and such additional areas as may be desirable for deceptive purposes. This may be executed by the naval units alone or in conjunction with amphibious reconnaissance patrols and underwater demolition teams furnished by the landing force. The collection capabilities of various types of ships have also been discussed in chapter 9 and need not be repeated here. However, some additional comments on amphibious patrols and underwater demolition teams will be given because of their intimate association with the subject at hand.

Amphibious Reconnaissance Patrols

In the early history of amphibious warfare, the amphibious patrol as an aid to tactical planning for a contested landing was not widely employed. In his invasion of Britain, Julius Caesar sent officers of his staff to observe prospective landing beaches from seaward, but they did not actually land. During the Middle Ages and Renaissance, if any information was gathered, it was by secret agents and espionage.

Amphibious patrols reappeared during the Napoleonic Wars. Prior to the British expedition against the French in Egypt in 1801, a patrol of officers was sent ashore at Aboukir Bay to reconnoiter for the projected landing. In the Russo-Japanese War of 1904, the landing beaches at Port Arthur were not scouted by the Japanese on the pessimistic premise that to do so would divulge the location of the proposed landing; the possibility of an undetected reconnaissance was apparently not considered. In the only major amphibious operation of World War I, the Gallipoli Campaign, no effort was made to reconnoiter the beaches physically prior to landing, although two amphibious patrols were used later in the operation for the purpose of gathering information along the flanks of the Anzaio beachhead. One of these patrols accomplished its mission with no casualties, while the other was detected during landing and destroyed by rifle fire.

The extensive use of the amphibious reconnaissance patrol during World War II was mainly the result of modern theory and technique, stem-

ming largely from recent developments such as the inflatable rubber boat, radio communication, and radar. These developments, together with high-speed naval transports capable of covering considerable distance during hours of darkness, made the physical reconnaissance of a defended shore a practical and necessary source of information for the amphibious operation. One of the first examples of a modern patrol was conducted by the Marine Corps in February 1940 during the Fleet Marine Force maneuvers. In this exercise, the force designated to land on the defended island sent a patrol ashore prior to the landing which successfully located the defenses of the landing area without being detected by the defending force. The patrol consisted of a Battalion S-2 and three scouts. It was transported into the area by submarine and went ashore and returned under cover of darkness in one rubber boat.

In January 1942, the Observer Group, Amphibious Corps, Atlantic Fleet, was organized. In September 1942, this group was transferred to the west coast where it became an organic part of the Pacific Fleet and was organized into a company of three reconnaissance platoons. It was soon discovered that the usefulness of this type of reconnaissance was such as to make almost continual employment of the unit desirable. Since this was beyond the capabilities of so small a force, natural expansion followed and at the end of the war the Marine Corps was using a complete series of highly trained units for this specialized duty. Each of the two amphibious corps in the Pacific initially contained organic amphibious reconnaissance units, enabling each to collect information for forthcoming landings with its own agencies. In addition, each Marine division had its organic reconnaissance company, particularly trained for amphibious patrolling as well as for normal land warfare missions.

Experience has shown that the patrolling of small heavily garrisoned areas does not as a rule warrant the risk involved. Large land masses, on the other hand, offer excellent patrolling opportunities. Well-planned, aggressive patrolling was found to be feasible, and patrols secured valuable detailed information. Patrols were successful on New Georgia Island, Treasury Island, and Bougainville, returning without a single casualty.

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The patrols used by the 1st Marine Division on Cape Gloucester and those on Tinian by the V Amphibious Corps proved conclusively that, when properly employed, the amphibious patrol can secure information of the enemy and terrain not otherwise available.

In planning employment for amphibious patrols careful consideration must be given to the following basic principles:

1. A patrol must be so constituted, both as to size and equipment, that it can operate in its assigned area with minimum danger of detection.
2. Personnel assigned must be well trained in amphibious patrolling and be in good physical condition.
3. Patrols must be given simple missions capable of accomplishment and of sufficient importance to warrant sending out a patrol.
4. Patrols must be allowed sufficient time to accomplish missions assigned.
5. Patrol leaders must be chosen for their known ability and intrepidity.
6. Before departing from base, patrols and the commander of the transporting craft must be carefully briefed as to where and how they will be landed and where and how they will be removed.

The size of an amphibious patrol is limited to the minimum number of men and boats capable of accomplishing the assigned mission. Therefore, the size of patrols which are to land will vary from 2 or 3 men to a reconnaissance company, depending upon the nature of the mission, known enemy dispositions, and the configuration of the terrain. The smaller the patrol and the fewer the boats, the greater will be the chances of escaping detection.

Personnel assigned to amphibious reconnaissance patrols are normally selected from reconnaissance battalions or companies organic to a Marine Division. At the close of World War II, the Division Reconnaissance Company consisted of 5 officers and 104 enlisted men, plus 4 naval personnel. The present Division Reconnaissance Company consists of 6 officers and 121 enlisted men and no naval personnel. The Amphibious Reconnaissance Battalion of the Fleet Marine Force consists of 23 officers, 291 enlisted marines and 7 enlisted naval personnel.

Underwater Demolition Teams

Underwater demolition teams are the principal Attack Force agency which can be used to reconnoiter the objective area prior to D-day to gain information of hydrographic conditions and enemy beach defenses, and to destroy or remove natural and artificial obstacles existing on the beach or in the approaches. Frequently personnel of the Landing Force accompany underwater demolition teams to obtain information of particular interest to the assault forces and to ensure that such information is immediately made available to landing force units.

During the landings at Lingayen on Luzon, in January 1945, ComUDTsPac requested that Army liaison personnel from higher echelons of the assault units be assigned to UDT as observers. Rough UDT charts, showing the results of the teams' reconnaissance, were prepared and reproduced on gelatin "Ditto" pads, and a limited distribution was made on D-day to some of the command ships of the assault forces. As a result of these experiences, it was perceived that UDTs could in the future perform valuable work of a reconnaissance and intelligence nature. The teams participating in this work at Lingayen Gulf had had no training in hydrographic reconnaissance as distinct from the demolition function, and consequently the information contained on their charts, although valuable, was not complete. Furthermore, distribution of this information was not effected until one hour before the assault on D-day.

For adequate underwater intelligence, it was established that the officers participating should have a thorough knowledge of hydrography, in addition to an understanding of the maps, beach diagrams, and the methods of speedy reproduction under combat conditions. Ozalid machines, installed on the fast transports (APDs) on which the teams were embarked, were used extensively in the preparation of the reconnaissance charts which were distributed immediately after the information was brought back. Staff members and underwater demolition team captains were briefed by the rear intelligence section in the early stages of planning an operation, and later the intelligence officers assigned to UDTs briefed all personnel whose duties necessitated the collection of detailed

information. All available pertinent data was issued to them, and particular effort was made to supply blow-ups of all the best available photographs of the beaches and reefs to be reconnoitered.

The effectiveness of careful advance planning is well illustrated by the Iwo Jima operations. Reconnaissance was made on D-2 day, and several hours afterward a message summarizing the UDT information was sent to the flagship of the amphibious forces for relay to the attack forces approaching the target.

On the night of D-2 day, the landing force liaison personnel, which consisted of Marines, two members of the UDT staff, and men from the teams, were sent back to rendezvous with the attack and support forces, bearing copies of the messages and the UDT charts. Reports were sent by message upon the completion of each reconnaissance operation; briefing personnel with reports and charts were put aboard APDs to rendezvous with attack forces on D-1 day, and were also transferred to the flagships of all Trans-Ron, TransDiv, attack force, and two tractor commands. The Army liaison personnel were assigned to their respective battalions, regiments, divisions, and corps. At dawn on the morning of D-day, with the arrival of the attack forces in the area, further transfers of staff personnel with the necessary charts were made to command ships. Each team furnished guides to the first landing waves, and the staff personnel reported to the Force Beachmaster.

No demolition was necessary at Iwo Jima, but the necessity, feasibility, and importance of wide and early distribution of UDT intelligence were demonstrated.

Prior to the invasion of Okinawa, the UDTs had been briefed at Leyte on all available intelligence, and the latest photographs had been delivered to them there. After making a reconnaissance of Kerama Retto, which was then occupied a week before the main assault, they proceeded to Okinawa and reconnoitered the beaches 2 days before the assault. Here they were accompanied by representatives of the various troop commands assigned to the selected areas. Their reconnaissance produced a detailed written report, including large-scale Ozalid prints of beach and reef sketches, which proved to be accurate and com-

prehensive. The day before the invasion, representatives of the various troop commands were taken by destroyer to the flagships and vessels on which troop commanders were embarked. UDT representatives then briefed the assembled commanders and furnished them with the written report.

During the UDT reconnaissance, 3,500 obstacles in the form of wooden posts set on the reef edges were discovered. As most of these constituted a barrier to LVTs, it was deemed necessary to blow them out of the beach approaches. This was accomplished by the UDTs without incident. In addition, these incredibly courageous men later reconnoitered for more suitable unloading beaches in the northern part of the island.

Amphibious Intelligence Forms

The form used for intelligence estimates in amphibious operations conforms to the standard form for estimates (see chapter 12), although certain information must be stated in greater detail. Analysis of hydrography must include the following factors: nature of coastline and contiguous islands; the general location and extent of usable beaches and exits therefrom; the nature of offshore approaches, including the condition of the bottom, natural obstacles, surf conditions, tides, and currents. From the analysis of the hydrographic conditions, conclusions are reached as to the effect of these conditions on the enemy's ability to defend the objective area and on the execution of our mission.

The intelligence annex for an amphibious operation follows in general the standard form described in chapter 12. It differs, however, in that many additional appendices are required because of the vast amount of detail which must be promulgated during the planning phase of an amphibious operation. In order to expedite planning between subordinate and higher units, the appendices and early drafts of the intelligence annex may be distributed as soon as prepared and in advance of the final draft of the operation plan. Other appendices may be issued later than the operation plan in order to permit inclusion of late information.

Beach studies are paramount in the work of the intelligence officer in amphibious operations.

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They may be prepared for a single beach or for a series of beaches in the same area. Information can be presented in tabular form under the following headings: (1) Location; (2) Length and width in yards; (3) Composition and trafficability of the soil; (4) Surf, current, and tidal conditions; (5) Characteristics of the bottom, including gradient; (6) Depth of water offshore and on-shore; (7) Terrain behind beach and routes of egress; (8) Natural and artificial beach obstacles; (9) Enemy beach defenses; (10) Other pertinent beach information.

The collection plan for an amphibious operation embodies the same considerations as those previously discussed in chapter 12. Essential elements of information and their indications will determine the collection assignments.

Dissemination

The task of disseminating intelligence in the amphibious landings on Okinawa was described in chapter 11. It is typical of all such operations, for dissemination is complicated by the distance which often separates participating units. Once the amphibious forces depart for the objective area, dissemination becomes increasingly difficult, and therefore it is important that all available intelligence necessary for briefing of troops aboard ship be disseminated prior to embarkation.

In certain instances, intelligence produced by specialist teams may be of value to the entire command. It can be most expeditiously disseminated in the form of special studies or reports, such as weather surveys, technical intelligence monographs, translations of enemy documents, and comprehensive reports on enemy tactical doctrine, order of battle, photographic interpretation, and terrain. The value of such reports is of course enhanced when they are accompanied by appropriate graphics.

The intelligence officer must use the dissemination method best suited to the time, place, situation, and nature of the intelligence. For example, radio silence normally is in effect aboard ship until the beginning of the landing and assault phase. Therefore, the intelligence officer must rely on visual signals, aircraft drop, helicopter, ship's boats, or dispatch vessels for dissemination. To assist in the rapid dissemination of intelligence ashore,

an intelligence radio net is established among the intelligence sections within the landing force.

Amphibious Intelligence in Action: Okinawa

In the Okinawa Operation, Naval Intelligence made perhaps its most successful operational effort in amphibious warfare, utilizing both past experience and training. Some mistakes were made, but the intelligence activities in this operation serve to illustrate both the problems and the complexities of intelligence requirements in amphibious warfare.

In August 1944, the Joint Chiefs of Staff reached their decision to occupy certain portions of the Nansei Shoto for the development of bases from which to conduct further operations against Japan. ComPhibsPac was designated the Commander of the Joint Expeditionary Force, which meant that his Intelligence Section became the highest echelon of intelligence for this operation. Before the actual landings took place, first on 24 March 1945 at Kerama Retto, and second on 1 April at Okinawa, the facilities and personnel of Naval Intelligence were heavily taxed to provide the military forces involved with all of the information they required.

The overall planning and preparation phase consumed almost 7 months. During the first part of this period a major task was the consolidation of all accumulated information available on the area to be attacked, and the preparation of coordinated plans and schedules for collecting new information. The bulk of accumulated information was supplied by the Office of Naval Intelligence, with additional information from such sources as JICPOA, the District Intelligence Officer, Fourteenth Naval District, the Office of Strategic Services, the Bishop Museum, the United States Geological Survey, the Hawaiian Pineapple Co., Pan-American Airways, and the Commercial Pacific Cable Co.

For the collection of new information the Intelligence Section of ComPhibsPac enlisted the aid and support of some of the same sources plus the intelligence officers of the Fifth Fleet, Tenth Army, Fleet Marine Forces (Pacific), XXIV Corps, XXX Amphibious Corps, ComAirPac, Fast Carrier Force, and all amphibious groups. Constant and close liaison with these units and

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with G-2 was essential at all times. Prisoners of war were carefully interrogated, a conchologist from Arizona was employed; personnel of the United States Geological Survey Office in Honolulu were interviewed; continuing aerial reconnaissance of the area was scheduled and carried out; submarine reconnaissance was also conducted.

The reproduction and distribution of adequate maps, charts, and printed material were tremendous jobs. In addition to hydrographic charts of the area, Okinawa approach charts, bombardment charts, briefing charts, and anchorage charts of the staging areas were prepared. There were many essential maps, including road maps of Okinawa; air and gunnery maps, scale 1/25,000, from which gridded air support charts were prepared; plotting maps of Okinawa, scale 1/100,000; special intelligence maps, scale 1/36,000 to show all defense installations; and rubber relief maps of the southern part of Okinawa, scale 1/10,000 and 1/25,000. Printed material included a general Information Bulletin on the area; a target analysis bulletin; graphic and tabular studies of the hydrography, reef, and beach conditions; a graphic terrain study; detailed studies of reefs, beaches, unloading conditions, surf and swell, weather, tide tables, and daylight-dark tables. Preliminary beach sketches showed the assault beaches and perspective, with salient features of each area. Controlled mosaics were prepared. By January 1945, the Intelligence Annex for the ComPhibsPac Operation Plan was completed, and annexes for the operation plans of subordinate units were underway.

The distribution of all materials was begun in January and completed in February. It was, of course, necessary for every ship engaged in the operation, including those which might become involved, to receive an adequate supply of maps, charts, photographs, and all other prepared written material. The size of the distribution problem is indicated by the fact that the approximately 1,340 vessels involved in the operation were staged at seven different bases in the Western Pacific, and some were at sea most of the time. Special planes and officers were detailed for this particular job.

The planning phase of this operation was ended when the Commander of the Joint Expeditionary Force departed from Iwo Jima on 9 March 1945

to embark the commanding general of the Tenth Army at Leyte. During the period en route to the objective area, the work of his Intelligence Section increased. The coordination and dissemination of late information received from a variety of sources was most pressing. Up-to-the-minute photography was a particularly important item. The following plots were maintained: a strategic plot of enemy forces, including sea, land, submarine, and air; a plot covering the movement of all allied task forces; a mine field plot; and a running intelligence plot of the objective area. Additional maps were prepared for the fire support ships. At the last minute, UDT reports and CVE photography were received. The briefing of all personnel, including coxswains, boat crews, shore and beach parties was undertaken by lower echelon intelligence officers.

With the arrival of the invasion forces at Okinawa, the last phase of the operation began. Speed now became a paramount consideration in the collection and dissemination of information during actual combat. ComPhibsPac assumed control of all photographic reconnaissance aircraft, with the result that the Intelligence Section was required to furnish the pilots with all information necessary to the efficient accomplishment of their various missions. The briefing of these photo aircraft by intelligence officers produced excellent coverage of designated areas. Photographic interpreters then worked closely with the Target Information Center to assist in locating targets and making damage assessments. Hydrographic survey units, placed under the jurisdiction of Intelligence, carried out extensive operations in laying buoys, setting up navigational aids, observing tides and currents, and making special studies of beaches and anchorages. Weather forecasts were issued twice daily.

Captured materiel, documents, and prisoners were given a preliminary screening for information of immediate value. Situation plots and the intelligence maps were constantly maintained, and briefing, especially of newly arrived commanders, was a continuing responsibility. Daily situation estimates were prepared. The problem of adequate reproduction of photographs and maps required continuing attention. Finally, liaison between the various commands, particularly when

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Army and Marine units moved ashore, was maintained to the extent physically possible.

For the intelligence officers of subordinate commands, the major problems were those of dissemination of information and liaison with other commands engaged in this operation. Their particular responsibilities and effort dealt with their own immediate objectives, the beaches on which their respective forces were to land and the landing approaches. On a smaller scale, their work was similar to that of the Intelligence System of ComPhibsPac. A most important task was the briefing of the lower echelons down to the personnel of the individual ships in order that everyone would be familiar with the general situation and the part each was to play.

The Okinawa invasion provided a practical demonstration of the vital operational role played by Intelligence. Its collection, processing, and dissemination of information produced the knowledge which made possible the most effective and successful use of a vast, complex military machine geared to the requirements of amphibious warfare.

MAPS AND CHARTS

A thorough understanding of maps and charts as sources of information for intelligence is essential in intelligence activity, especially in connection with amphibious operations. In addition to familiarity with the types and scales of maps suitable for specific operations, the intelligence officer must be skilled in the principles of map reference systems to enable him to read all systems quickly and easily. This subject is completely covered in Field Manuals 21-25 and 21-26, which should be studied by every intelligence officer; a working knowledge of grid systems can be obtained from AMS Technical Manual No. 36 and AFR No. 96-5.

The three types of maps and charts with which the intelligence officer is primarily concerned are: military maps, hydrographic charts, and aeronautical charts.

Military Maps

In general, military maps may be classified by scale, use, or description. Scale is the criterion as to the amount of detail shown. Small scale maps are 1: 600,000 and smaller; medium scale

are larger than 1: 600,000, but smaller than 1: 75,000; large scale are 1: 75,000 and larger.

A standard classification of military maps has been adopted by the armed forces of the United States, the United Kingdom, and Canada:

1. General: Maps smaller than 1: 1,000,000—utilized for general planning purposes.
2. Strategic: 1: 1,000,000—utilized for strategic planning purposes.
3. Strategic-Tactical: 1: 250,000 (1: 500,000 alternate)—for use when other scales are unsuitable or unavailable.
4. Road: 1: 250,000—for tactical and administrative troop movements.
5. Tactical: 1: 50,000, and 1: 25,000 (1: 100,000 alternate).
6. Fire Control: 1: 25,000—fire control for artillery, naval gunfire, and air.
7. Photomap: 1: 25,000 (1: 12,500 alternate)—for tactical and administrative purposes.
8. Town Plans: 1: 12,500.
9. Beach Maps: 1: 2,000—for tactical use by assault units during an amphibious operation.

Hydrographic Charts

Hydrographic charts are published primarily for navigational use and so are not designed as topographic maps. Generally, they include the outline of the adjacent land, together with the surface forms and artificial features that are useful as aids to navigation. For certain special operations, large scale hydrographic charts containing both topographic and hydrographic data may be prepared. Hydrographic charts show depths of water, nature of bottom, contours of bottom, and tides and currents in a given sea or sea and land area. The standard projection for hydrographic charts is the Universal Transverse Mercator Projection on different scales, depending on the use of the chart. Small-scale charts include large areas suitable for ocean navigation; large scale charts cover small areas suitable for coastal and harbor navigation.

Aeronautical Charts

An aeronautical chart is a specialized representation of mapped features of the earth, or some part of it, produced to show selected terrain, cul-

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tural and hydrographic features, and supplemental information required for air navigation, pilotage, or for planning air operations. The World Geographic Reference System (short title: Georef) is used on all aeronautical charts for referencing purposes in the control and direction of air forces engaged in large-area operations or those of global nature. This includes the control and direction of forces engaged in air defense, strategic air operations, air-sea rescue operations, and tactical air operations other than air support or amphibious operations, in which case the co-operating air forces will employ the grid referencing system specified by the commander of the operations.

LOGISTICS PLANNING

A full treatment of logistics planning lies beyond the scope of this text, but the important relationship of intelligence to logistics merits consideration.

Logistics relates to the procurement (design, manufacture, training), shipment and storage (or billeting) of materiel and personnel for military use. In the Navy this represents in a sense a combination of the greater part of the efforts of the Supply Corps and of operations officers throughout the service. The complexity of modern war and its enormous demands in men and materiel have been documented earlier in this volume. Successful campaigns do not depend on valor or will-to-win alone, but also on having the necessary tools and men delivered in sufficient concentrations at the right places and times. This requires minute planning and considerable experience. Minute planning of a particular operation requires a thorough knowledge of the area of operations and the capabilities of the enemy.

Reference Tables

The logistics officer on a naval staff is closely allied with the intelligence officer, for the latter in effect is the enemy logistics officer, and his knowledge of the area of operations not only helps to assess enemy capabilities but is an essential element in our own logistics planning.

Our logistics experience not only helps to plan future operations, but in the absence of concrete

intelligence gives many clues to enemy capabilities. We now have many volumes of basic data needed for logistics planning, such as the supply requirements, the man-hour costs, and the transit times over different kinds of terrain by various transport means. These data can serve as a general guide to the intelligence officer in assessing both the overall strategic abilities and the tactical behavior of the enemy. His goal should be to develop detailed parallel tables on enemy logistics as rapidly as the information can be collected.

His collection of intelligence on size of the division slice, on speed of movement, on tons required to supply initially and to replenish given enemy units will ultimately lead to action by our own logistics planners to match or counter that of the enemy.

There now are reference tables published in convenient form (see FM 101-10, and the Navy Logistics Handbook) that are equally useful to the logistics officer and the intelligence officer in their respective jobs. The intelligence officer cannot hope to assess the enemy accurately unless he is first thoroughly familiar with the types of data we need to know for logistics planning for our own forces and until familiarity with our own needs can serve as a yardstick for assessing the enemy.

Standard Components

The logistics planning of the Navy is well illustrated in the standard ACORNs, CUBs, LIONs and other types of advance bases developed in the last war. Our early war experience, sometimes accompanied by confusion, led to the development of standard components of men and materials that could be planned well in advance of actual campaigns. Based upon the missions assigned a future advance base and the intelligence on the area where it was to be located, a large base could be ordered from a catalogue of standard component units. These units were assembled at interior supply depots or at coastal centers and packed for overseas shipment, often with unit markings already on the boxes. When the decision was made to establish a base at a particular location the classified code word (shipping designator) was

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printed on the boxes, and they were ready to move out in echelons to the forward area. Any combination of components these bases would need were thus readily available.

Planning of bases extended beyond choosing of components. A shipping priority system assigned booking numbers to all cargo, both initial and replenishment. These were then linked directly to the number of ships assigned to the lift, which in turn were scheduled to match the best intelligence assessments of initial unloading ca-

capacity at the destination plus logistic assessment of expected increase in discharge capacity.

A very large operation involves most detailed planning not only of the gunfire support, landing beaches, and air support targets, but also the correct scheduling of each combat loaded assault wave and each resupply echelon to get the right material to the right place at the time it is needed. The degree of success will be related to the teamwork demonstrated by operations, intelligence, and logistics on the staff concerned.

CHAPTER 14

INTELLIGENCE IN SUPPORT OF SPECIAL ACTIVITIES

The responsibility of intelligence to the commander is never greater than when a new arm or tactic suddenly appears in the enemy's arsenal. Then intelligence must discover the capabilities and limitations of the new weapon or tactic and what countermeasures might be instituted. Such new developments that appeared in World War II were the V-1 and V-2 guided missiles, the *Kamikaze* tactic, and, on the Allied side, the atomic bomb. It is the purpose of this chapter to discuss some of the special activities that have gained prominence as techniques of war, namely, atomic warfare, guided missiles, biological and chemical warfare, guerrilla and partisan operations, economic warfare, and psychological warfare.

For the purposes of this discussion, the role of intelligence in support of these special activities is stressed. Here again, the intelligence cycle is in operation, and the intelligence officer is functioning to assist strategic planners and field commanders. Collection, processing, and dissemination are the intelligence officer's special responsibilities. In this respect, this chapter is merely an extension of those which have preceded it.

ATOMIC WARFARE

The advent of atomic weapons in the science of war has brought to the intelligence officer his greatest challenge in modern times. Not only must he have a basic understanding of the nuclear physics which creates atomic explosions, but he must also acquire a keen appreciation of the intelligence targets and problems presented by the different aspects of a vast new field of scientific research and development. His first responsibility thus becomes the one which is always of prime importance to his work: the maintenance of a full fund of knowledge. It is by no means an impossible task, nor does he have to have professional scientific or engineering knowledge to comprehend it, for a tremendous amount of material is available in books, magazines, and newspapers which

can be understood by the average layman. For more technical treatment he can turn to the Atomic Energy Commission's semiannual reports to Congress and the wealth of scientific reports continually flowing from the research centers and laboratories under the Commission's control. Further, he should read all the classified information available to his organization or activity. As developments in the atomic energy and nuclear power fields progress, more and more information is disseminated to all who need to know.

It is to our credit as a nation that we offered to share our atomic secrets with the world in one of the most humane and generous gestures in recorded history. Soviet Russia, however, was not ready to accept this offer with all the free exchange of scientific information and open inspection of existing installations which were requisite to its successful operation; hence the world is engaged in a race for military supremacy in the use of a discovery which should be one of mankind's greatest blessings. Since atomic weapons and nuclear power are new factors in current strategic estimates of the situation, the intelligence officer must consider the capabilities of potential enemies in these fields and the nature of the essential elements of information required in a collection plan for atomic information.

Indications of Atomic Research

Here he meets a real problem in determining indicators of atomic research and development. There is no *single* process for making an atomic bomb. There are at least two kinds of A-bombs, one made from uranium 235 and the other from plutonium, but both do have in common ultimate production from uranium. However, each kind can be made by three different separation processes, which means that there are six different approaches to A-bomb production, each of which allows considerable latitude in design of installations. Furthermore, when the processes of atomic

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bomb production are broken down into their component parts, the materials, apparatus, and processes are similar to those employed in familiar industrial enterprises. So our intelligence targets begin with the raw materials rather than with processing installations. Of these, uranium can be singled out as of prime interest. Other materials which are possible indicators of processes involved in atomic research and development include thorium, lithium, beryllium, graphite, deuterium (heavy water), inorganic chemical reagents of high purity, and non-corrosive construction materials such as monel metal, nickel, and stainless steel. The essential elements of information for intelligence would be generally concerned with ore deposits, mining statistics, exports and imports, rates of production, and ultimate use of such materials.

Our second atomic intelligence interest is directed towards plants and equipment. Proximity of plants to water is a first indicator, for a nuclear reactor requires an elaborate water cooling system. When the water is returned to the river or lake of its origin, it may still be hot enough to cause a rise in the temperature above normal. The building housing a reactor will be of considerable size, and electronic equipment will be required for remote-control handling of the product. Separation plants in plutonium extraction require underground tanks for the disposal of radioactive waste. From the ventilating stacks of these tanks radioactive dust may be widely scattered, not in sufficient quantities to constitute a health hazard, but enough to make detection possible in the surrounding vegetation and water supply.

Laboratory and engineering equipment of many kinds should be cause for investigation, although most of it is not used exclusively in nuclear energy development. Cyclotrons, electromagnets, compressors, vacuum pumps, and ultra-high voltage generators, for example, have potential employment in atomic processes, and elaborate instruments such as a mass spectrometer are essential to nuclear research.

Third, we have an admirable indicator of atomic activity in the person of the nuclear scientist and his colleagues in atomic research and development, the engineers, chemists, geologists, physicists, metallurgists, and others of allied professions. The

activities of such people become essential elements of information in assessing any nation's atomic capability. The training of students in the nuclear sciences, the projects of university laboratories and research centers, and the security measures under which their work is carried on will all have meaning to the intelligence officer.

The manufacture of an atomic weapon is an immense and difficult problem involving scientific and engineering ability of the highest order and the utilization of skilled manpower to such a degree that, in the present economic state of the world, very few nations could accomplish it, even though desirable.

Nuclear Research Throughout the World

We know of course that the United States, Canada, and Great Britain originally pooled scientific knowledge of atomic energy in the common interest. The French program is on a relatively small scale compared with that of the United States or even Britain. Belgium's contribution is of first-class importance because of the uranium deposits in the Belgian Congo, which is the largest supplier of these ores to the United States. The Philips Company in Holland has an international reputation as designers and manufacturers of particle accelerators for atomic research. Denmark is second to none in fundamental research (Profs. Bohr and Hevesy) but lacks the industrial potential for practical applications. Norway's atomic energy research and installations are particularly concerned with the use of heavy water. Sweden has built a reactor and has the necessary high industrial potential. Switzerland has the engineering techniques and physicists of international reputation (Dr. Paul Scherer). Nuclear research and discoveries of the greatest importance, led by Fermi and Amaldi, are Italian contributions. India has an Atomic Energy Commission and her scientists are famed for their genius in advanced mathematical research, which is of special value in nucleonics and the quantum mechanics associated with it. India also has vast quantities of monazite sands, and Ceylon is potentially the world's richest source of thorium. South Africa and Australia have extensive programs of geological exploration. It is probable that other nations have found sources of uranium or thorium ores in

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significant quantities, but are not publishing their presence to the world.

As to the U. S. S. R. and Eastern Europe the unclassified information published represents only educated guesses. We do know that the infamous Klaus Fuchs gave the Russians not only the intimate details of the A-bomb, but something of the potentialities of the H-bomb as well. He made it possible for Russian scientists to attain their goal at least three and possibly as much as ten years sooner than they could have done it on their own. Russia exploded her A-bomb much sooner than we expected, and we can believe that she has been working on the H-bomb since 1945. Our own progress on the H-bomb continues to be highly classified information, although again reputable scientific reporters have made educated guesses.

Thus far we have been dealing with atomic intelligence of a strategic nature. Let us proceed to consider the operational employment of atomic weapons and the responsibilities of an intelligence officer on the staff of a commander who must make decisions as to their use and also solve the problems of radiological defense. Such problems of command become the concern of the commander's staff.

A-Weapons in Operational Command

The introduction of new weapons of a nonperceptible insidious character in warfare does not require a revamping of our organization in order to cope with it. It is quite evident, however, that it will demand wisdom, tact, and ingenuity on the part of the commander and his staff. A proven, easily demonstrated weapon is quickly countered by the optimum defense attainable. For the defense against a weapon whose effects are either shrouded in secrecy or not easily observed, however, implicit faith in technical staff advisers will be necessary.

Command problems in radiological defense may arise as a direct result of several factors. Lack of prior planning, for instance, will require quick decisions and improvised plans, some of which may easily prove to be disastrous. Lack of qualified and trained personnel will cause serious delays. Lack of equipment of rigorous and proved design can cause limitations in time of need. The absence of a well-trained and well-organized radio-

logical defense team can impose unnecessary time delays. Command problems directly attributable to these factors can be reduced. Other command problems arising out of unexpected employment of atomic weapons with regard to method, place, or timing can be minimized by thorough intelligence and counterintelligence. In the final analysis, command problems can be solved by the adequate combination of the following:

1. A thoroughly trained radiological defense officer backed by his commander.
2. A well-thought-out and complete plan.
3. A trained radiological defense organization.
4. Adequate equipment, supplies, and facilities.
5. Good intelligence and counterintelligence.

Methods of Atomic Attack

The extent of damage caused by the various types of atomic bursts and the characteristics of the explosions have been thoroughly studied. With proper protective measures and a radiological defense plan the chances for survival under atomic attack have become very much increased, and many groundless fears have been dissipated by accurate knowledge gained from field tests.

In an air burst of an atomic weapon, the predominant effects are blast, radiant heat, instant nuclear radiation, and secondary fires; the secondary effect is radioactive contamination which is relatively small. In the downwind direction, areas may be found contaminated by fall-out of radioactive material, although the degree of contamination may not be a primary hazard.

In an underwater burst, the predominant effects are radioactive fall-out contamination and water-propagated blast which constitute an extremely serious threat. The water absorbs, shields, or minimizes the effects of instant nuclear radiation, air blast, radiant heat, and secondary fires. In order to obtain an extremely large volume of highly radioactive material on a target, the effect of blast and heat is reduced.

The probable results of a subsurface ground burst are purely speculative, but some broad conclusions can be drawn by analogy with the underwater burst. Predominant effects would be radioactive contamination (from the fall-out of soil-trapped fission products and from neutron-induced reactions in the elements of the soil) and,

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to a less extent, air and ground shock wave. Secondary effects would be instant nuclear radiation, radiant heat, and fires. Since the dissipation of the heat generated in a subsurface ground burst could be expected to be slower than in an underwater burst, the cloud would rise higher and would be influenced more by wind conditions.

Considering each of the effects of the various probable methods of employing an atomic weapon, it is seen that they impose large problems on the military commander. In addition, the civilian defense organization will no doubt rely strongly on the zone of interior commander for advice, coordination, and assistance, make his task even greater. The commander outside the zone of interior may have to combine his efforts with those of a friendly power. This would further add to the responsibilities of that commander.

Information From Tests

Much profitable information and guidance can be extracted from experiences in operations involving large-area radiation contamination. A command problem which was potentially very serious arose at the Baker test of Operation Crossroads. The Baker test explosion was different from those at Hiroshima and Nagasaki, for there was an added hazard from the radioactive materials trapped in the water and rained on the target vessels. Men walked through radioactive material scattered over the decks of the ships, tracked it around, and got it on their clothing and exposed parts of their bodies. Since they could not see, feel, nor smell it, they did not respect it, but they could eat it and they could inhale it.

At Bikini, operations could be interrupted any time plans, group training, or operational techniques became inadequate to assure complete protection to personnel. During combat, however, plans and training must be such that an organization can continue to function.

After the Bikini tests were completed, the target vessels were towed to Kwajalein and anchored in the lagoon for long-term storage. The need for further examination of the vessels was apparent, and it was also evident that a complete quarantine of the ships would not be practical. The ships contained large amounts of high explosives, including some experimental ammunition and some

obtained from foreign navies. Removal of this ammunition was necessary, and the longer operations were deferred the more dangerous the work would become.

Frequent briefings of the men were held by the officers to impress the need for caution, not only against the dangers from radioactivity, but also against the dangers of handling explosive materials and working in poorly ventilated spaces. The protective restrictions which were established were more severe than those used at Bikini. Every tendency to relax precautions had to be countered by a psychological campaign on the part of the officers to insure compliance. This is typical of what may be expected in the future. If the nature of the danger is not directly observable, the control of the troops will present a complex problem. There is a vast difference between impressing a man with the fear of observable physical injury and impressing him with respect for invisible radioactivity. If there is careful indoctrination regarding radioactivity, the effect of atomic weapons should be decreased. If proper respect is not instilled, the toll of lives will be increased.

It seems that the command difficulties to be countered and the lessons to be learned in atomic warfare will include a repetition of some of the difficult experiences at Kwajalein. There will be others that are more complex.

The value of any objective should be weighed against the cost of achieving it. The costs of achieving radiological objectives are not readily observable. When a man has been subjected to some cumulative absorption, which will be referred to as military tolerance, his usefulness for radiological defense (or attack) is impaired. Further exposure will increase the liability of his becoming a casualty. When a commander has held his troops in an area of high radioactivity until he can observe the physical effects upon them, he has held them too long.

The commander of the future must understand the nonperceptible hazards of atomic warfare and know how to evaluate them accurately. He must also know how to weigh the normal, calculated risks against the value of his military objective. He must understand the nature of radioactivity and the slowness with which it acts and makes itself evident. He must be willing to accept the

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advice of a technical staff on such matters just as certainly as, under other circumstances, he would accept the information of troop losses. He cannot shift to technical personnel the responsibility for failing to drive on to his military objectives, but he must give proper weight to their advice. Military command remains in his hands and cannot be usurped by the adviser or the radiological monitors, but the commander cannot act efficiently if he ignores the advice of such technical personnel, who in such instances would actually give far more than advice. They would tell the commander the absolute facts and impress them upon him so that later substantiation by troop casualty lists and demoralization reports would be avoided.

The United States has conducted many tests since Hiroshima and Nagasaki for the purpose of obtaining data which will enable the development of an efficient, adequate, and commendable radiological defense operation. From each succeeding test come additional valuable lessons pertaining to radiation, lessons that will improve and perfect the overall concept of radiological defense.

Captain Frank I. Winant, Jr., USN, Chief of the Radiological Defense Division, Armed Forces Special Weapons Project, concluded a lecture at the Army Medical Center in 1949 with the following observation:

We must not leave our problems of operational development unsolved awaiting a hurried solution under conditions of actual warfare. Future atomic tests should be very useful for developing our standard operational procedures and organizations, and military personnel should be employed in radiological defense work in these tests to increase our service experience. These tests are few and far between and are sometimes limited to specialized objectives. Since they fall short of the disaster conditions toward which our planning must be pointed, it seems vital that there be operational development within the services. We have a great deal to do in properly evaluating the air reconnaissance of radiological areas, in determining the value of helicopters for radiological survey, in perfecting remote and projectable telemetering instruments and techniques, and in completing time studies and work planning and on-the-spot orientation methods for such conditions. We have a great deal more planning to do in the matter of provision of adequate and

timely personnel replacements in radiologically hazardous areas.

Operational development work will provide a continuous testing of textbook training and prevent stagnation of training doctrine. Without it our training in theoretical aspects can advance only to the limit of the most recent physics text and in its practical aspects to the limits of the last information which has emanated from atomic tests.

No discussion of this nature could be complete without some reference to civil defense. Since most of us have families, we are naturally interested in this problem. The armed services are responsible for effecting their primary military missions in wartime and will, in general, be unable to effect civil defense. Recognizing this condition, it is proper that the military should keep out of civil defense as much as possible. This will confront the Civil Defense Organization with the responsibility of growing up to meet its own problems. It would be sheer folly, however, to overlook the fact that civil defense will have a great influence on our capabilities to wage war. The next war may very well be won or lost on the home front. Recognizing this, we are trying to do what we can in support of civil defense without complicating it. Our research programs are pointed toward developing equipment which will be as useful to the civil defenders as to the military. The field of radiological defense, from its inception, has been a universal field with universal language, equipment, techniques, and training. It is a military goal to increase our readiness in equipment and trained personnel so near to the service requirements that if called upon in emergency we can dispatch radiological defense personnel to any point necessary. To this end we have initiated a truly joint training program with the Army, Navy, and Air Force turning out of their own schools joint student groups who have been trained in joint curricula under joint staffs so that in emergency they can be banded together quickly and work together with intelligence and precision as they did in Operation Sandstone.

Nuclear Power

When in August 1951, the Navy announced that a contract had been let to the Electric Boat Co. of Groton, Conn., for construction of an atomic powered submarine, a new era in naval warfare was born. The implications of this new development are obvious, for such an undersea craft may well revolutionize modern concepts of naval

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power. Tactical employment of submarines which approach a Jules Verne ideal conjures up a host of speculation upon the future of the surface ships which are the submarines' common target.

We can only conjecture what further developments in nuclear power will mean on the sea and in the air. One thing is certain: the intelligence officer will have to meet their challenge with flexibility of mind, ready to cast off obsolete ideas, and concentrate all his powers of imagination, resourcefulness, and initiative upon the new problems they pose. Once again the maintenance of a full fund of knowledge is paramount. He must study the capabilities of various aircraft as potential deliverers of atomic weapons and think of what they can do if controlled and operated by the enemy. With such knowledge he will more capably support his commander.

GUIDED MISSILES

A "Guided Missile" is defined by the Joint Chiefs of Staff as "an unmanned vehicle moving about the earth's surface whose trajectory or flight path is capable of being altered by a mechanism within the vehicle." In other words, it is a pilotless aircraft with built-in intelligence. The basic components of any guided missile are: an airframe; a propulsion unit; a guidance system; and a warhead. The laws of subsonic and supersonic flight determine the design of the airframe. As for the propulsion unit, the jet engine is the only existing motive system capable of economically producing the tremendous power necessary to launch guided missiles and propel them to supersonic speeds. The two main types of jet engines are the atmospheric jet and the rocket jet. The former may be subdivided into Pulse jets, Ram jets and Turbo jets (for use in the atmosphere); the latter into Liquid fuel rockets and Solid fuel rockets (for use in and beyond the atmosphere). Guidance systems under development today include radio or radar command, terrestrial navigation, automatic celestial navigation, three-dimensional "dead-reckoner" called the inertial system, a preset course computer, and various types of homing devices which respond variously to light, radio, sound or infrared emissions, radar reflectivity, or magnetic features of the target.

The warhead may be of the high explosive, fragmentary, or special weapons categories. Or, in the case of reconnaissance missiles, the warhead may be replaced by a series of still, movie, or television cameras.

Their greatest advantage is that they do not subject the lives of trained personnel to enemy fire. Therefore, the weight normally occupied by a pilot, guns, protective armament, landing gear, and survival gear, can be devoted to make the pilotless aircraft fly higher, faster, and farther.

The future potentialities of guided missiles are so great that they may one day comprise one of the major components of armed forces intelligence. Therefore, any reported foreign development is of tremendous technical and scientific interest.

Early Progress

The Russians pioneered in the military application of rockets, while the Germans led the world in the development of effective guidance systems. In Germany, a large group of rocket enthusiasts was at work in the early 1920's striving to break the barriers to travel beyond the earth. At several periods between the wars the German Army took a direct interest in rockets, foreseeing military applications, and by the middle 1930's specific military experimentation was underway, well guarded from public knowledge, at the Baltic Coast station of Peenemünde. Several teams of engineers were at work. One group produced a robot airplane powered with a pulse-jet engine, the V-1. It carried almost one ton of explosives, had a range of about 125 miles, and a speed of about 425 miles per hour. It was launched from a ramp by a booster, then leveled out on a preset course from which it dived either on command of a cock mechanism or when the fuel gave out. It was simple in construction, requiring only 500 man-hours, and its pulse-jet engine termed "flying stove pipe" had no moving parts other than a flap valve at the air intake. Approximately 10,000 were shot toward Britain beginning a few days after D-day in Normandy. Of these the British spotted 8,081, and managed to shoot down 3,765 with fighter aircraft or antiaircraft guns. Some 2,340 are known to have reached London, destroying or damaging one million homes, killing 6,000 persons, and wounding 37,000 more. It should be noted

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that the *V-1* was neither a rocket nor was it completely guided, except by clockwork.

The main group of engineers at Peenemünde was at work on a technically more significant, though at the time less successful, military weapon: the long range rocket with supersonic speed. The one pushed to completion for operational use was the *A-4*, popularly known as the *V-2*. With a range of about 200 miles, a speed of 3,500 miles per hour, and a 2,150 pound warhead, it was launched vertically from any level hard surface to arch through the stratosphere and then drop without warning on its target. Interception was impossible because it travelled at nearly five times the speed of sound. Pin-point accuracy was not required, since it was directed at concentrated urban areas. It represented a great technological achievement, although less effective than the *V-1*. Its cost was very high, about 5,000 man-hours.

The German experimenters also made progress with much more fearsome weapons. The *A-4b*, later improved to the *A-9*, was an *A-4* with wings to increase its gliding range. Not tested was a two-stage rocket, the *A9/A10* which was to speed an *A-9* across the Atlantic to fall on New York 30 minutes after launching in Europe. A still larger, three stage *A9/A10/A14* combination was to throw the *A9* into space in a permanent orbit around the earth serving as a weapon to be dropped by radio command on any target in the world, or as an observation station and radio relay point, and later as the start of a manned station in space.

The Germans also developed whole families of other special purpose missiles. They were designed for launching either from ground sites, aircraft, or surfaced submarines, and could be employed against surface targets or aircraft. The most advanced surface-launched antiaircraft missiles were the Schmetterling and the Wasserfall, both of which were tracked optically and controlled by radio or radar. The air-to-air missiles included the *X-4* and the *HS-298*. The latter was tracked optically through a pair of binoculars from the launching plane, and course corrections were cranked in by radio. To overcome Allied attempts at jamming, controls were sent to the *X-4* through a fine, flexible wire training back to

the launching plane. The Germans also had two air-to-surface missiles, which proved quite effective. The *Fritz-X*, a 3,000 pound radio-controlled bomb, was used to sink the modern Italian battleship *Roma* when she was fleeing to join the Allies. And the *HS-293*, an 1,100 pound radio-controlled missile, made successful attacks on Allied merchant ships, and also sank 7 destroyers in the Dodecanese.

At the end of the war, German scientists, blueprints, test models, and partially completed missiles fell into the hands of all principal victors. They have since provided the basis for postwar developments in both the United States and the U. S. S. R.

Recent Developments

The years since World War II have been devoted both to basic research and to developing interim tactical models. The United States used its stock of *V-2*'s as one phase of its upper atmosphere research program, in one case throwing a second stage rocket, *WAC-Corporal*, into space a distance of 250 miles. The effort has involved metallurgy and ceramics to find materials that would withstand the terrific heat of rocket motors; chemistry to find dependable fuels delivering higher exhaust velocities; wind tunnels and mechanical brains to determine aerodynamic behavior; and especially, guidance systems to improve the long range accuracy of such weapons.

Guided missiles in this country have become a major item in the military budget, with a special office to coordinate the independent research of Army, Navy, and Air Force.

Space Travel

As early as December 1948, it was announced that the efforts of the individual services to develop satellite vehicles were to be combined. Satellite vehicles, already within present day technical capabilities, could well be followed by manned stations in space. The Air Force has underway long-range development programs that include studies of space medicine to anticipate the effects of lack of gravity, acceleration, cosmic radiation, and meteor incidence on the human organism. In public information releases, the Air Force has already spoken of travel not only within the Solar System

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but eventually many light years away to other stars, suggesting that Wolf 359, some 8 light years away may be an early goal. Today's chemical fuels probably can give us a space station, though at considerable cost. A workable atomic drive, already blue-printed in several public proposals, or some entirely new propulsion system will be needed for further exploration. Even if the new fuels do not appear, by the costly stockpiling of material at a space station we can not only reach the moon but penetrate to Mars as well.

Therefore, interplanetary travel is essentially an extension of intercontinental missile activity. The reason for dwelling at such length on these rather fantastic topics is their intelligence implications. In World War II, Allied intelligence began to get strange reports about German activities at Peenemünde, and pinpointed air attacks on this center were important in disrupting activities there. Runaway rockets which crashed on Swedish soil were recovered and subjected to careful analysis so that their nature and capabilities could be determined. Aerial photographs and reports from agents told about the preparation of launching sites. The invasion of Normandy came none too soon to save considerable destruction by German V weapons. Because of their potentialities, prompt technical intelligence steps were required to capture personnel and data on German experiments.

Thus some acquaintance with the field of guided missiles is a new requirement in the intelligence officer's full fund of knowledge. He should read all available literature and seek opportunities to learn all he can from those who are engaged in this special branch of warfare.

BIOLOGICAL AND CHEMICAL WARFARE

Biological warfare (BW) is warfare waged by means of biological agents to produce death or disease in men, animals, and plants. Chemical warfare (CW) employs nonexplosive chemicals (especially war gases, smokes, and incendiaries) for the same purpose.

Biological and Chemical warfare intelligence are concerned with the research and the preparations for operations by foreign nations in these forms of toxic warfare. Targets of this intelligence interest are the materials and techniques

employed, and the toxic warfare characteristics of all possible theaters of operations, including weather, hydrography, and terrain.

The subject material of the following pages will introduce the intelligence officer to biological and chemical warfare, and outline the additional responsibilities that become his in fields where science is making a deep impact upon modern military strategy and tactics. It becomes even more significant when we consider the fact that our enemies are very much interested in its development.

Biological Warfare

Biological warfare is old in the history of the human race, having been waged against man by man at least since Old Testament times and against man for many thousands of years by nature. As a technique, it has been described as "preventive medicine in reverse" and demands little more of our industry and science than a change in point of view.

Biological warfare is defined as warfare waged by the use of organisms or their toxic products to cause disease in man, animals or plants. It is distinguished from other methods of warfare by three striking characteristics: (1) Its action is wholesale and indiscriminate. It is a method of mass killing, and as such may be extremely demoralizing; (2) Its action is diffusive and tends to spread rapidly in all directions. In this respect it is unique. It has been compared to the spreading of flames from an incendiary bomb and to an atomic chain reaction; (3) It is not destructive of property. Unlike conventional or atomic shelling or bombing, it never destroys buildings, machines, or other dead matter, and can accomplish its purpose by affecting plants or domestic animals rather than human beings.

At its present stage, biological warfare is by no means comparable to atomic warfare in destructive power. This is partly due to the problems of producing and preserving sufficient amounts of BW agents but even more to the difficulty of disseminating them widely enough to have a militarily significant effect. Biological warfare is, however, far cheaper than atomic warfare. It is also more insidious and better suited to sabotage, especially in a time of ostensible peace.

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There are four types of disease-producing organisms, or pathogens: bacteria, fungi, viruses, and rickettsias. (Certain specimens of these types are harmless or otherwise not suitable for BW.) It should be noted that "bacteriological warfare," once a common term, is too narrow in its denotation. Typhus, for example, is a rickettsial disease; and so the use of typhus culture as a BW agent would, for consistency, have to be called "rickettsial warfare." For this reason the term "biological warfare" is now general.

Suitability of Diseases for BW

To be suitable for BW, a disease must have certain characteristics. It should be highly communicable, infectious, i. e., able to breakdown the defensive mechanism of the host, and virulent, i. e., deadly or disabling. These criteria are self-evident. Unless a disease can spread rapidly, take hold and run its course, and cripple or enfeeble its victims, it cannot seriously affect morale or capacity to resist.

It must be borne in mind, however, that the characteristics of a disease depend in part on the conditions under which it is used. Thus measles, a single attack of which ordinarily confers lifelong immunity, would probably not be very infectious in most countries except among small children. Any disease chosen for BW will likely be one to which the population attacked is susceptible, due regard being given to acquired immunity.

Methods of Dissemination

BW agents may be disseminated: (1) by air, in the form of aerosols (suspensions of solid or liquid particles in air), as occurs with common colds, influenza, diphtheria, and measles; (2) by contamination of food or water, as occurs with typhoid and cholera; (3) by contact or contagion; (4) by carrier, such as a rodent or insect "vector," as occurs with typhus, malaria, Rocky Mountain spotted fever, and plague.

A given disease may be transmitted by more than one of the above methods, and also by others, such as inoculation. It need not be transmitted in the way that is usual in nature; certain vector diseases can be effectively disseminated by air. Aerosol diseases are easily spread, and the result-

ing epidemics are hard to control. They are thus especially suitable for BW. The other types are not easy to introduce on a large scale and, except for vector diseases, are fairly easy to control by ordinary sanitation and case isolation. Accordingly, overt BW could be waged by means of filled missiles and munitions, projected or airborne, to create BW clouds (aerosols). Covert BW can also be effected with aerosols, although the possibility of contamination or the use of vectors cannot be ignored.

Weather and terrain factors may favor or impede dissemination by the aerosol method. The best conditions for spreading aerosols are high humidity, low temperature, moderate wind, and dim light. The direction of the wind is important, since naturally the BW cloud must be released to windward of its objective. Personnel on high ground may be unaffected by a BW cloud. Heavy vegetation diminishes initial concentration and persistence, and buildings or dugouts tend to screen out the BW agent.

Production and Use

In addition to being able to cause a "suitable" disease under given circumstances and being susceptible to dissemination in a given environment, a BW agent must be adaptable to large-scale production. Such production depends chiefly on the medical and biological sciences and industries and does not presuppose great resources, a vast and varied industrial plant, or the other components of national power in conventional or atomic warfare.

BW is especially suitable for clandestine use, since preparations for it are easy to conceal. Conspicuous plants and equipment, such as must be used in producing conventional or atomic weapons, are not needed. Furthermore, a relatively small supply of a BW agent is sufficient to infect even a large population.

Intelligence Problems

The identification of a BW attack and the determination of its source may prove to be an intelligence enigma. The attack may first become evident through such indications as an outbreak of disease which cannot be explained by normal means of transmission or the simultaneous appearance of many cases in about the same stage of de-

velopment. Indications other than human illness, such as disease and death among animals, the unusual taste or appearance of food or water, and the sudden reduction or disappearance of the residual chlorine in water supply systems, must also be watched.

The following factors provide an index of a Nation's BW capabilities and vulnerabilities: (1) the level of medical and biological science; (2) the technological level, size, and flexibility of the biological and pharmaceutical industry and in particular, its capacity to produce cultures, antibiotics and immunizing agents on a large scale; (3) the adequacy of medical personnel and facilities; (4) the system of communications and transportation for evacuating afflicted areas, bringing them help, etc.; (5) the target population, particularly with respect to whether it is steadfast and well-informed and equipped in matters of sanitation; (6) BW research and training; (7) internal security to prevent sabotage; (8) intelligence of BW scientific and technical developments, the BW capabilities, vulnerabilities, and probable courses of action of all Nations, and the BW characteristics of strategic areas.

Chemical Warfare

Chemical warfare is defined as warfare waged by the use of smokes, incendiaries, and poison gases.

In some respects it is unlike BW. It is not so indiscriminate, its action can be localized fairly well, and, of course, it does not have the same diffusive or "chain reaction" effect. On the other hand, like BW it can produce casualties without damaging installations and serves its purpose if it merely disables or demoralizes without killing personnel. The methods of dissemination are similar. For toxic CW agents, the most useful appear to be the aerosol method, such as spraying from aircraft, and the filled-munitions methods by using bombs, shells, or grenades.

History of CW

CW has an extensive history. The Germans initiated it in World War I by launching a large-scale chlorine attack at Ypres on 22 April 1915. Though almost totally unprepared, the Allies soon

began to retaliate. By the time of the Armistice, chemical shells constituted the following percentages of all ammunition being expended: United States 15 percent, British 25 percent, French 35 percent, German 50 percent. About 39 different CW agents were developed during World War I, the best known being mustard and lewisite gases (vesicants), phosgene and chlorine (choking gases), and hydrogen cyanide (a "nerve" or "blood" gas). Various irritant smokes, tear gases, incendiaries, and screening smokes were also developed.

In World War II, for practical purposes, poison gas was not used at all, the deterrent being fear of retaliation. The Allies were known to be well prepared for CW counterattack, and it is also quite possible that Hitler, who was gassed as a corporal in World War I, abhorred poison gases and opposed their use. Other CW agents, however, such as incendiary bombs, flamethrowers, screening smokes, and "napalm," were used and new ones were developed.

Though they abstained from using poison gas, the Germans developed a new class of "nerve gases," called "G" (for "German") gases, which belong to a class of organic compounds called "Trilons." Their properties make them deadly war gases. One of them, "GD," for example, is 100 times as toxic as mustard gas. They are moderately persistent to persistent, colorless, odorless, tasteless, and otherwise difficult to detect, and their physiological action is very rapid. These gases exist in both the liquid and the vapor states. As liquids, they are absorbed into the bloodstream through the skin and may cause death within a few minutes. Known antidotes or decontamination agents are effective only if used immediately. As gases, they are absorbed into the bloodstream through the lungs, when inhaled, and in this form they present little serious threat to anyone protected by a standard United States protective mask, since no significant amount of the vapor is absorbed through unbroken skin. If absorbed through broken skin, however, or inhaled without a protective mask, the vapor in low concentrations produces headache, nausea, retching, and pupillary contraction so great that it may cause blindness, and in high concentrations, paralysis of the respiratory muscles.

GUERRILLA AND PARTISAN OPERATIONS

Intelligence has a two-fold concern with guerrilla warfare. One is the production of intelligence suited to the special requirements of guerrilla and partisan operations, and the other results from the fact that intelligence officers are frequently assigned to such groups for liaison purposes in an advisory capacity, or to participate in the execution of their missions. Guerrilla warfare depends more on accurate intelligence than on mass force for successful operations, and its varied activities provide certain collection opportunities not afforded by more conventional operations.

Missions of Guerrilla Forces

Guerrillas are usually assigned missions which include the following: (1) Destruction of transportation and telecommunications facilities; (2) Destruction of crops, stored supplies, and factories; (3) Harassment of isolated troops, supply convoys, unit command posts, and air installations; (4) Collection and transmission of intelligence—including the taking of prisoners for information; (5) Political attack by assassinating enemy leaders, spreading propaganda, and terrorizing civilians; and (6) Combined operations, both offensive and defensive, with regular forces.

It is easy to see that intelligence can play a most important role in the fulfillment of any one of these missions. Assignment to duty with guerrillas is by no means limited to Army intelligence personnel; in World War II, naval intelligence officers served with such forces in Europe, Asia, and the islands of the Pacific.

Strength and Composition

Guerrilla units, although generally thought of as small, may vary considerably in size, depending on terrain, environment, and enemy activity. Examples exist of successful guerrilla forces of as many as 30,000 men. The significant organizational characteristic of guerrilla operations is not that the forces are small but that the separate tactical entities are often small *in comparison with* conventional units and their armament is generally light, consisting of small arms, demolition materials and perhaps mortars.

Ideally, every guerrilla unit has at least one radio operator, one explosives expert, and a person with medical knowledge. Military experience is of course desirable but not absolutely necessary, for the operations of guerrilla warfare have peculiar requirements and a variety of talents can be used to advantage. Marksmen from gun clubs, expert horsemen, hunters and trackers, miners who can handle dynamite, loggers who know how to control the fall of a tree, construction men, chemists to make explosives, mechanics to repair and operate captured vehicles or tanks—all are welcome in guerrilla ranks. Above all, an able leader is required, one who possesses the ability to inspire his men and who sets an example by his own daring and ingenuity. He must be able to control his men, for without a certain amount of discipline a guerrilla detachment becomes merely a group of individual bandits with no common goal or method.

Knowledge of Operating Area

Guerrillas should operate in areas thoroughly familiar to themselves if they are to capitalize on their limited strength. Knowledge of the area of operations in the intelligence sense then becomes of the utmost importance. There are hide-outs and caches to be prepared and escape routes to be planned. Terrain and cover must be studied to determine what areas can be traversed without detection from ground or air. Camouflage requirements need advance study and planning. The territory must be equally well known in the dark. The guerrilla does not try to hold ground. He uses his exact knowledge of the area to outdistance the enemy, to avoid his attention, to plan and carry out attacks. He must always be on the alert, since he lives by his wits.

Support Requirements

Major success by irregular troops or guerrillas require considerable support and sympathy of the resident population, logistics support from the outside, and coordinated action with other guerrilla units and also with any friendly forces in the area. Sympathetic inhabitants will furnish them with food, provide necessary information about the enemy, and protect them from betrayal. Without airdrops or smuggled arms and ammuni-

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tion from friendly territory, continued operations against modern armies are arduous and often futile. Coordinated efforts in irregular attacks are necessary even if the only goal is harassment. When guerrillas are in close proximity to friendly military forces, their operations can be of immeasurable aid if controlled by the theater commanders.

ECONOMIC WARFARE

In chapter 5 the scope of economic intelligence was outlined, and its importance in the strategic assessment of military power was emphasized. In succeeding chapters economic resources were shown to be basic elements of power among nations, and some of the problems of international economic relations and trade were discussed. This section will illustrate how economic intelligence can be directly used as the basis for the form of unconventional warfare called economic, which can support military aims in war and if the need arises also be effectively used in times of peace.

The Concept of Economic Warfare

Economic warfare has many weapons and purposes, but fundamentally it deals with the fact that a strong and healthy economy is important to long-range success in both military and political spheres. The disruption of normal economic processes or interference with economic planning will upset the time tables of military or political programs.

Modern war is a burden no nation can "afford" to carry, but it continues to be practiced because the alternatives seem even less desirable. Since the economic cost of war in resources, man-hours, capital investment, population shifts, financial debt, redistributed income, and inflation is so great, properly planned economic warfare measures can make the burden intolerable and bring the war to an end.

Economic warfare alone is seldom successful; it usually requires military strength to enforce its measures. Since ancient times, wars have been fought for economic gain, but even for the victors there was always been economic loss to a greater or lesser degree.

Let us consider some of the specific devices used as economic warfare measures: blockade, navicerts,

black lists, embargos, exchange controls, preemptive buying, rationing of neutrals, and strategic attack.

Blockade

Blockade is one of the oldest military tactics. Laying siege to a fortress until its food or water supply was exhausted brought surrender without heavy casualties to the attackers. On a larger scale, much of the history of sea warfare has involved interference with the commerce of the enemy. By the time of World War I, the application of this measure through blockade had developed to the point where it resulted in starvation in Germany and an accompanying deterioration of morale and will to resist. The German countermeasure was unrestricted submarine attack on ships going to the British Isles. Insofar as it made an issue of freedom of the seas and brought the United States into the war on the British side, it was a grievous error, but economically and militarily it was a logical and nearly successful step toward German victory.

The Germans repeated these tactics in World War II not only to prevent the delivery of war weapons and matériel, but also to deplete the stocks of essential war materials. Their attacks against lend-lease shipments destroyed not only guns, tanks, and planes in transit to our allies, but also hundreds of thousands of tons of oil, foodstuffs, lumber, chemicals, and textiles.

Our war against Japan from the Navy point of view included an economic attack through blockade operations. Our "silent service," the submarine of the Fleet, can take much credit for the ultimate victory. Japan was an ideal target for such a program because its crowded home islands depended on imported food and raw materials both to fight and to live. It would be an oversimplification of the facts to say the war could have been won by submarines alone, for the lives of many brave men on ships, on land, and in aircraft were sacrificed to make victory possible, but the potentialities of submarine warfare in blockade measures to weaken an enemy are very great indeed.

Economic warfare through blockade is not confined to actual combat operations. It can be equally effective in times of ostensible peace. Eco-

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conomic sanctions were used by certain nations against Italy at the time of the attack on Ethiopia. Their failure to influence Italian policy by cutting off vital imports can only be attributed to the fact that the sanctions were not imposed by all nations trading with Italy.

Blockade has also been used since World War II for economic warfare purposes. The Soviets tried it in Berlin in 1948. The successful counter-measure, the costly airlift, was an added burden on our military budget, but its salutary effects on the free world were well worth the economic cost.

We have also attempted a partial blockade of the Iron Curtain countries, because we have not wanted to supply the metals and machinery which would hasten the attainment of Soviet goals for military expansion. This has not been entirely successful, because the economic characteristics of the large Iron Curtain block are such that blockade alone cannot solve the problem.

Navicerts

A navicert (navigation certificate) is a device for controlling the activities of neutral vessels. The British have pioneered in this form of blockade and have used it successfully in two world wars. It is simply a certificate issued by authorized British officials, such as consuls, exempting a non-contraband cargo from seizure or search by patrol vessels maintaining a blockade. Thus shipping to neutral ports and the type of cargo carried by neutral vessels to enemy ports can be rigidly controlled. Cargoes not correctly manifested and covered by navicert are promptly confiscated.

Black Lists

In attempting to eliminate German influence in Latin America and to end neutral interference with blockade measures during World War II, the Allies effectively used the black list method. Economic intelligence uncovered the irregular activities of firms and individuals trading with the enemy, and a business house whose activities were discovered to be inimical to Allied interests was blacklisted. Even firms in a neutral country were threatened with reprisals for doing business with those on the black list.

Embargoes

Embargoes are simply prohibitions imposed by law upon commerce, such as government edicts prohibiting the departure or entry of ships at certain ports. They may be used to correct market supply and demand problems, to protect health, and to relieve traffic congestion. The embargo can also be used in economic warfare, but to be an effective weapon it has to be applied to commodities for which no substitutes are available or which cannot be supplied from alternative sources. The identification of such commodities is a job for economic intelligence.

The U. S. placed embargoes on oil and scrap metal exports to Japan in 1941 in the hope of stopping her production in preparation for war. They were not successful, for factions in Japan were determined on war, and the embargoes may even have hastened the attack on Pearl Harbor. As a policy, however, it was a logical measure at the time.

Exchange Control

The usual purpose of exchange control is to conserve limited supplies of foreign exchange to insure essential imports, to stabilize exchange rates and domestic prices, to control flights of capital, or to prevent black market activities. Exchange control, however, like all other economic devices, can be subverted to economic warfare ends. For example, espionage and propaganda on a large scale are expensive; if exchange controls can limit the availability of funds for these purposes, the enemy effort can be crippled. Likewise, if control over use of exchange is tight, and dollar currency is in great international demand, then it will be exceedingly difficult for the enemy to buy essential goods in world markets. If exchange control can manipulate exchange rates, it can make purchases very costly for the enemy even where trade continues. In support of national policy, many countries in recent years have used multiple exchange rates which enable the offering of favorable rates to encourage desired activities without damage to the overall exchange and trade patterns. The mechanics used are beyond the scope of this study.

Really effective exchange controls require a considerable amount of economic intelligence, for not only are licenses and inspection of particular ship-

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ments necessary, but investigation must also be made of costs of production and market prices both at home and abroad to prevent getting around controls through fictitious prices. Additional requirements are search of foreign asset holdings by individuals and banks, study of free or black markets in our exchange abroad, and prohibiting transfers of exchange from legitimate holders to those who are denied such facilities.

Writers have suggested other economic warfare possibilities related to currencies. One is the printing of high grade counterfeit money to be introduced into the enemy's currency circulation to break down price controls and spread inflation or lack of confidence. Similarly, it may be possible to drop counterfeit ration books in a highly controlled state to break down these regulations. It should be noted that the Soviets have already demonstrated on occasion their expertness in counterfeiting, and potential attack by these means is not to be disregarded.

Preemptive Buying

Preemptive buying is closely related to blockade measures. During World War II, the Allies not only bought strategic materials in neutral countries for our own war purposes, but also tried to buy up those materials of which the enemy had a shortage. Such measures were generally very effective, but it was also possible for them to stimulate production to the point where new problems were created. For example, tungsten was sorely needed by Germany, so the United States offered to buy the total production of neutral Spain. A characteristic of many of the extractive industries is that production can be expanded when prices make the exploitation of submarginal ore deposits profitable. Under the stimulus of preemptive buying, the digging of Iberian wolframite expanded to the point where we could not buy all of it, but at least Germany had to pay high prices for the ore she purchased. Even less successful were our attempts to buy up all the rabbit skins that the Germans used for lining aviation clothing. Preemptive buying of rabbit skins soon showed the superiority of biological multiplication over economic addition.

Preemptive buying, however, can be a powerful economic warfare weapon. Through its use the

nations of the West are effectively retaining control of all uranium ores this side of the Iron Curtain, and the entire output of other types of goods has also been preempted by long-term contracts.

Rationing of Neutrals

Blockade of the enemy and other control measures become meaningless if adjacent neutrals are able to expand their purchases of strategic materials on the world market and thus make available to the enemy either their own former supplies or even transship what they buy abroad. The steps required to counteract such trade policies help to illustrate how meaningless the concepts of neutrality in a world war have become. Our economic warfare specialists have no choice but to make detailed economic studies of imports, production, exports, and stockpiling of all essential materials in neutral countries. Having determined the normal needs for imports and the amount of stockpiling necessary to meet war conditions, the economic warfare authorities then control all neutral trade to keep it within reasonable limits. If current intelligence shows that we underestimated the ability of the neutral to export to the enemy, the controls are tightened. The controls are applied in the form of export embargoes, ship seizures, and exchange restrictions.

Strategic Attack

Strategic attack makes even heavier demands upon economic intelligence than does general blockade. Blockade merely requires assessment of overall economic dependence on trade. Strategic attack aims to destroy the key facilities in the enemy's economic system and thus paralyze his war effort on the home front. Successful strategic attack thus requires economic intelligence of the most exact nature to identify what is truly strategic in the enemy nation, where the bottlenecks of production, transport, supply or storage are located, and how they are to be attacked.

Consistent policies of strategic attack can be highly decisive in war, although it has not been proved that they alone can win wars. The Germans, for example, managed to keep production going under repeated strategic bombings, the immediate result being only temporary curtailment. When factories move underground, strategic

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bombing is, of course, futile. The psychological effects of strategic bombings are a different story, which will be told in the following section.

PSYCHOLOGICAL WARFARE

This section will consider the conduct of international relations and the implementation of national policies through the planned, deliberate communication of ideas for the purpose of influencing the opinions, attitudes, and actions of the people to whom the communication is directed. Of particular interest are the opportunities which may be presented to naval forces and naval commanders to utilize the planned communication of ideas in naval operations and the contributions the intelligence officer can make in the formulation of such plans.

An examination will also be made of the substructure which supports and makes possible the use of ideological weapons. The bricks and mortar of this foundation are bodies of knowledge—intelligence—and many people of diverse skills who participate in the intelligence support of psychological operations. At the national level, the intelligence support for such operations is provided by the Central Intelligence Agency, which can draw upon the data produced by the intelligence organizations of the armed forces.

National Organization

On 4 April 1951, the President issued a directive establishing the Psychological Strategy Board (PSB) to serve the National Security Council by providing "more effective planning, coordination and conduct of psychological operations within the framework of approved national policies." Representatives of the Department of State, the Department of Defense, and the Central Intelligence Agency were members of that board. The Joint Chiefs of Staff provided a Military Advisor. The Board was responsible for the "formulation and promulgation of overall national psychological objectives, policies and programs, for the coordination and evaluation of the national psychological effort."

Guidance came from the Psychological Strategy Board through the Department of Defense to the Joint Chiefs of Staff. The Joint Subsidiary Plans Division (JSPD) of the JCS coordinated

the activities of the armed forces in this field through liaison with the Psychological Warfare Divisions of the respective services. The Joint Subsidiary Plans Division also provided information to other subdivisions of the Joint Staff engaged in strategic planning.

The National Security Council assigned to the Department of State the responsibility for the conduct of overt psychological operations during time of peace and the initial stages of war. The Department of State, furthermore, was directed by Congress to set up a program to promote the better understanding of the United States among the peoples of the world.

By Executive Order of 3 September 1953 the President abolished the Psychological Strategy Board and established the Operations Coordinating Board, an interagency group directly responsible to the National Security Council. The purpose of this new board was "to provide for the integrated implementation of national security policies by the several agencies" of the Federal government. An underlying objective was to tie together more closely the planning and action phases of the nation's grand strategy. Specifically exempted from the authority of this board were any functions relating to internal security.

The regular membership of the board included: (1) the Undersecretary of State, chairman; (2) the Deputy Director of Defense; (3) the Director of the Foreign Operations Administration; (4) the Director of Central Intelligence; and (5) a designated representative of the President. In addition, provision was made for official representation on the board of any other government agency whenever matters directly related to its responsibilities were under consideration.

As a component of military planning, psychological operations represent a legitimate subject for investigation and consideration by the armed services during a time of ostensible peace or "cold war." For the Navy, it is not a simple matter to determine the extent or geographical location of its potential operational responsibilities or the circumstances under which naval power may be brought to bear. The role may be that of chief actor, or it may be that of providing logistic support to another branch of the services or the Department of State, or to an American mission over-

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seas, or to allied or neutral governments. Whatever the circumstances, the Navy must be prepared to plan and conduct psychological operations in support of both its own military activities and the actions of other government agencies. The Office of the Chief of Naval Operations, through OP-38, the Psychological Warfare Programs Division, directs this activity for the Navy. It is the responsibility of the Office of Naval Intelligence to support such activities by providing suitable intelligence data and other services.

The Concept and Name

Military understanding of the concept and finding a suitable name for its military applications have evolved rather slowly during the period from the start of the First World War to the present day. The psychologists, sociologists and allied specialists who became interested in the potentialities of "psychological warfare," aware as they should have been of the proper use of Communications, did not do a thorough job of communicating their ideas to the military leaders whose interest they were attempting to arouse. It should have been foreseeable that military men, customarily educated more intensively in the physical than in the social sciences, would display some skepticism and uneasiness when called upon to wage war on emotions, attitudes, and behaviors rather than on physical bodies and material fortifications. Yet the very language employed by the theoreticians and scholars was enough to discourage many a busy soldier. Working vocabularies with such terms as "privatization tendencies," "unstructured situations" and "audience predispositions," not to mention the far more technical vocabularies of Freud and Korzibski, were hardly suitable verbal symbols to capture the attention of the practitioners of "hardware" warfare. Over the course of some 30 to 40 years from the World War I period to the present time, the process has gone on of working out a concept for the mission and functions of "psychological warfare" in relation to the traditional forms of military warfare and of determining the general perimeters of this evolving implement of national policy.

Granted that there are ideological or psychological side-reactions which accompany economic,

political, and military operations; granted that in some situations these may overshadow all other reactions in terms of contributing toward the achievement of objectives; nevertheless, the generating of such results is not well-described by the term "psychological warfare." This is testified to by Hans Speier, who commences his article, *Psychological Warfare Reconsidered*, as follows:

The term psychological warfare has gained wide currency in popular and scientific discussions, but its meaning is not clear. For three reasons the term is debated among those who use it freely.

First, warfare cannot readily be expected to be waged in times of peace or, for that matter, against the populations of neutral or allied countries in wartime, unless it is felt that by virtue of being "psychological" this kind of warfare is not "real" warfare. During the Second World War, psychological warfare was indeed regarded primarily as a responsibility of the military who fought the enemy, whereas the civilian Office of War Information never officially professed before the Congress and the public its concern with it. Soon after the end of the war the relationship between the Soviet Union and the Western powers began to be characterized as a state of cold war—incidentally no less ambiguous a term than "psychological warfare"—but while according to many observers of the international scene the traditional distinction between war and peace cannot be applied in the postwar period, no government involved in the cold war has as yet stated that it is engaged in psychological warfare against other nations. Rather, there is talk of "international information," and, reluctantly, of propaganda.

Second, the terms "psychological warfare" and "political warfare" (as the British prefer to call their activities in this field) are misleading if they designate exclusively propaganda to enemy countries in time of war. Wars are waged against enemies in order to defeat them; yet during a war, psychological warfare comprises not only ancillary activities to the same end by certain nonlethal means but also actions which attempt to reach and make friends in the enemy camp.

For yet a third reason, the term psychological warfare is easily misunderstood. When it is used as a synonym for combat propaganda and related activities in wartime, it seems to be implied that other forms of warfare have no psychological effects, but only physical consequences, and are conducted

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without regard for the mind of the enemy and the moral forces at his command. . . .

The ambiguities of meaning from which the term psychological warfare suffers stems (sic) from the lack of a more basic agreement on the nature of war. . . .

Is there available a more satisfactory title to describe this complex of activities, sometimes military, sometimes political, sometimes economic, all of which have psychological ramifications, which will take place in peaceful and warlike contexts, and which may be directed toward target groups of varying nationalities and living under widely differing circumstances?

The term which not infrequently is employed unofficially is "Psychological Operations." This name is an improvement in that it avoids creating the erroneous impression that psychological activities are a part only of warfare when they are in fact just as necessary in time of peace. However, the phrase "Psychological Warfare" continues to be used frequently as a general title for all kinds of psychological operations. There is evident also in some quarters an uneasy and uncertain dissatisfaction about perpetuating the word "psychological." The average American, not being devious by nature, and respecting a tradition of fair play, too often has associated psychological activities with the perverted use to which they have been put by totalitarian regimes, not recognizing that such instrumentalities also may worthily serve in more just causes. However, the word "psychological" appears to be too deeply embedded in the common, working vocabulary of the modern world to be uprooted at this late date.

Military Applications

The clarification of the ambiguities of the term "psychological warfare" and a definition of the place and role of the psychological-ideological component of military operations require careful consideration of the diversity of responsibilities imposed upon the military organization of modern nations.

Harold D. Lasswell's article, *Political and Psychological Warfare*, is helpful in the search for clarification. A portion of it is quoted below (italics are his):

The most distinctive act of Psychological Warfare is this: *it uses the means of mass communication in order to destroy the enemy's will to fight.*

Mass communication, it should be stressed, is not exclusively a matter of the word, spoken or printed, or picture. It uses other media also, such as physical acts and material devices. This is notably true of assassination. While the act of killing cannot be considered a conventional method of communication, yet it has been used often to affect political attitudes. *The act of assassination was expected to have an impact upon the intention of the enemy to fight that would be far out of proportion to the physical damage done to his capacity, or to the physical capacity made use of in the killing.* We are looking at the conduct of war in the perspective of psychology when we are seeking to widen the gap between the physical destruction of capabilities on both sides and the magnitude of the impact upon the enemy's intention to resist

As concerns the military, here is evidence that "psychological warfare" is not something apart, competing with traditional warfare. It is but another perspective for viewing the conduct of familiar military operations, another factor which must be considered when planning future campaigns, and on occasion another type of operation to be undertaken for principally psychological ends.

The factor to be considered is "psychological suitability," which becomes a subject for investigation by the military commander and his staff as part of their estimate of the situation. It will include study and analysis of what psychological-ideological results are desired in fulfilling their current mission, through what kind of operations the forces of the command can achieve these results, and finally, what kind of operations or actions should be avoided because of their possible adverse effects.

Psychological results may be produced by the employment of conventional military weapons as well as by propaganda leaflets and tactical loud-speaker teams. The screaming, divebombing Stukas, supporting the Nazi ground forces in their breakthrough of the Maginot Line, were as much a weapon for achieving the psychological results of terror and panic as they were for killing Allied soldiers. The commander and his staff are directly concerned with psychological results that will

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support specific operations at a particular time and place. The support rendered may be through demoralization of enemy troops; it may be through encouragement of and instructions to about-to-be-liberated friendly civilian populations; it may be through the creation of appropriate expectations or reactions among neutral groups who come in contact with our military operations and our personnel. Whether the means used are psychological or conventional, if properly selected they are capable of providing cooperating support for any military operation. Neutralizing the enemy or destroying his will to fight through psychological pressures are results no different from those to be achieved through the application of nonpsychological force. Here then is merely another family of weapons stored and awaiting selection by the field commander who needs only to become accustomed to drawing on the psychological instruments at his command as readily and confidently as he selects his operating "hardware."

In scope Psychological Operations encompass alike conditions of peaceful cooperation among nations, of uneasy tension, and of outright war; in influence they may extend to friends and allies, to neutrals, and to hostile target groups. More specifically, within each of the foregoing groups, appeals may be directed to individual leaders or to various religious, economic, social, or political subgroups that in one way or another are significant in the life of the target society. The *modus operandi* is the use of every medium of communication which produces psychological results through the employment of visual symbols, through the written and the spoken word, and through conduct and actions.

The results sought to be achieved may be considered in terms of effects upon the mental states of the targets. States of mind which it is desired to produce may range from that in which the target feels reassured, comforted or encouraged to the other extreme in which the target feels persuaded or compelled to take specific, immediate action along lines desired and predetermined by the communicator.

Strategic Bombing in Psychological Operations

It was mentioned in the previous discussion of economic warfare that strategic bombing may be

a more important psychological weapon than a means of the physical destruction of enemy economy. Destruction of morale has an immediate effect upon will to resist and will to work, hence it directly affects civilian production. The United States Strategic Bombing Survey studies the effects of strategic bombing on German and Japanese morale. The following are excerpts from the German study:

Strategic bombing was the major means by which the Allies were able to strike a direct blow at the morale of German civilians. Almost one-third of the Germans were subjected to it and all lived in the shadow of its threat. One-half of one percent were killed by bombing and one percent injured. One-fifth of all civilians were deprived of water, gas, or electricity, many of them for long periods. One of every 15 civilians was evacuated to another area. Every German, whether or not he experienced these direct effects of bombing, suffered such indirect results as shortages of food and supplies, and the disruption of transportation. There was no German civilian who did not experience hardship or suffering as a result of bombing . . .

A major factor in the final breakdown of German civilian morale was strategic bombing. . . . Morale was not an easy target to knock out. It was never completely destroyed by strategic bombing, although its structure was seriously damaged. But during the closing months of the war, the cumulative effects of strategic bombing definitely began to outweigh the powerful Nazi forces which above all else had held the German people to the war-industry grindstone during the two preceding years. Poor morale did ultimately break out into widespread popular behavior imperiling the German war effort. But the actual outbreak was the result of several momentous and coinciding German catastrophes, the approaching loss of the war, the loss of German lands to the enemy, the cumulative devastation and disruption of the German home front by bombing, the military, political, and economic chaos which prevailed in the wake of disastrous setbacks. It was in this combination of circumstances that strategic bombing was able to achieve its maximum morale effect.

The general deterioration of morale due to bombings of Germany made itself evident in various ways. There was increasing war weariness, and skepticism of Germany's ultimate victory.

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The Survey reports that "by the beginning of 1944 three-fourths of all Germans regarded the war as lost." Civilians in bombed areas lost confidence in their leaders, and because of their loss of homes and property thought that they were bearing the brunt of personal sacrifice. There was a strong fear and shock reaction produced by the bombings, which made people nervously upset by subsequent lesser alarms. The survey also discovered that the government was held responsible for the bombings and blamed for the failure to provide adequate defense. Resentments were directed against the Nazi regime more than against the Allies. Disruption of public utilities and especially of local transportation services had an important effect in depressing the German people. A widespread evacuation program had to be undertaken, and it in itself produced dissatisfaction and confusion. Industrial productivity was diminished somewhat, although the organized system of controls was fairly successful in keeping the traditionally obedient and industrious workers at a routine level of performance. Apathy, however, was widespread.

In Japan many of the same reactions to the bombings were reported. The Survey for Japan reported:

The importance of the air attacks in depressing morale is indicated by the fact that Japanese said they were:

The most important single factor in causing them to have doubts of victory.

The most important single factor in causing them to feel certain of defeat.

The most important single factor in making them unwilling to continue the war.

Their greatest worry during the war, and the thing which made most of them happy that the war was over. . . .

The primary emotional response to the bombings was fright and terror. Many people abandoned their "battle stations" as fire fighters and fled to shelters when the raids overwhelmed defenses.

Night bombing was feared more than daylight bombing, and high explosives were feared more than incendiaries . . .

Air attacks were cited as an important reason for absenteeism and lowered morale, but the chief effect of bombing appears to have been on the capacity of the people to work. The workers would still go to work or could still be forced to go, but they could

neither be utilized nor driven to produce as in previous years.

The Japanese tactics in the South Pacific furnish an interesting illustration of warfare psychologically waged. Infantry and air strafing attacks were made against American troops, planned and timed to disrupt normal eating and sleeping hours. As Prof. James N. Mosel of George Washington University has pointed out in analyzing these incidents, the prolonged disruption of basic habits, particularly habits associated with the satisfaction of fundamental drives and wants, can cause severe frustration and anxiety and can even lead to neurosis. It was reported that at times it became impossible for American troops to maintain routine in even the most trivial activities. The same psychologist has called attention also to the fact that such a situation, if sufficiently protracted, can generate emotional instability, increased excitability, break down the unity of the group, and sensitize individuals to a variety of irrational fears and negative attitudes. Such disturbances as digestive disorders, heightened blood pressure, muscular tremors, and bodily aches and pains may follow from such stimuli.

Political Warfare

Political warfare has been developed to its greatest extent in the totalitarian countries rather than in the democracies, for it violates much of what constitutes democratic morality and political conscience.

Prof. Mosel makes some illuminating comments on its methods and techniques:

A basic technique of political warfare as used by the Germans and Russians is to create ambiguity and confusion. One way of doing this is to assume a line of action which has multiple interpretations—one which points in several directions and suggests a number of different motives. Thus the enemy country is "kept guessing". Propaganda warfare is frequently used to accelerate the desired effects.

This technique requires no overt consistency; its object is to mislead and complicate. The enemy country which is attempting to interpret these actions becomes anxious and disturbed by their inability to understand what they see. Many different interpretations

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spring up, bringing bickering and internal dissension which, in turn, adds further anxiety and confusion.

In their vain attempts to extract some rational meaning from the opposing country's actions, the observing country's leaders and experts develop one plan or policy after another, each proving unsuccessful. The cleavages occurring among the leaders themselves are then further amplified by the population's loss of confidence in its leaders' ability to deal with the situation.

This technique requires a thorough analysis of what constitutes "ambiguity" from the viewpoint of the enemy country, and a comprehensive understanding of that country's current political problems, its role in the balance of power, its international objectives and the circumstances which it considers as threats to its national well-being.

When the general populace has been sufficiently undermined in its internal cohesion, the enemy country can then step in and climax its program with hard-hitting propaganda warfare. The psychological factors operative at this juncture are subtle but powerful. It is a psychological fact when confronted with an ambiguous, contradictory situation, we experience a strong need for meaningful clarification. The clarification that is accepted is in general one that (1) is presented first, (2) when the need for clarification is strongest, and (3) which is most satisfying. By utilizing these principles, the enemy country can inject at just the right moment a carefully designed "interpretation" which will gain acceptance. Needless to say, this maneuver requires accurate assessment of the situation, careful timing, comprehensive political intelligence, and psychological knowledge of the country's national character structure (its symbols, loyalties, hopes, fears, personality traits, etc.).

To investigate in detail how the Communists carry on political warfare, utilizing ideas, words, symbols and communication media, would require an extensive examination of the overall method of conduct of the international relations of the Communist Party and the Soviet government. Such an investigation would make it clear that the psychological pressures and reactions produced through political maneuvers are but one of the interacting weapons of warfare as waged in the Communist style. The effects attributed to this type of weapon cannot be isolated, but they can be studied in the context of any given campaign

of the Communist-instigated war against the non-Communist world.

Communist political warfare is accompanied by a campaign of propaganda worldwide which is of great magnitude. It has been reported that the Soviet Union spent close to one billion dollars on various forms of propaganda during 1950, with another half billion dollars spent by Communist satellite states.

The Soviets' principal themes for external consumption have been those that depict the Soviet Union as the chief proponent of world peace and the United States as the chief aggressive and warlike nation threatening such peace, and the "Hate America" campaign conducted within the Soviet Union. The vehicle for the former theme has been principally the Stockholm peace appeal, the Communist-sponsored, phoney but rather successful attempt to convince the peoples of many countries that the source of belligerency in the world was the United States. The "Hate America" campaign has been carried on in the postwar period in the Soviet Union with an intensity and continuity that is beyond the comprehension of United States citizens. Emphasis has been placed on phoney charges that the United States engaged in bacteriological warfare in Korea and North China and treated prisoners of war with excessive cruelty.

American correspondents in Moscow have reported that, as a result, the Soviet citizen believes Americans to be people without principle, barbarous and hostilely aggressive. The feeling against the United States is reputed to be one of indignation, resentment, and anger.

INTELLIGENCE SUPPORT FOR PSYCHOLOGICAL OPERATIONS

In his book *Sykewar*, describing and analyzing PW activities in World War II, Daniel Lerner aptly illustrated the responsibility of intelligence in psychological operations as follows:

Although (our highest-level policies) made few overt references to intelligence, they rested clearly on certain intelligence assumptions concerning the audiences to which they were directed. The policy of Unconditional Surrender, for example, made sense only on the assumption that the enemy forces could and would surrender in the face of certain

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defeat. That such an assumption involved an important intelligence estimate (even if the estimate was never clarified on a more explicit level than "intuition"), will be better understood if one recalls the enormous publicity in America during the first year of the war, given to the view that Japanese soldiers never surrender. . . .

If the view that German soldiers would not surrender had been taken literally, a policy of Unconditional Surrender could have led to nothing short of the extermination of every last member of the Wehrmacht. This was clearly not the intention of the Allied high command, whose evaluation of available information on surrender led to the conclusion that the German armies would surrender. . . .

Similarly the announcement of peace aims such as the Four Freedoms and the Atlantic Charter was based on the intelligence assumption that their contents correspond to the desires of the peoples of the Allied nations. . . .

This need for accurate intelligence remained constant. Broad estimates of German attitudes served a useful purpose in framing high policies, but a continuous and detailed flow of accurate information, properly evaluated, was required to keep these high policies applicable to the dozens of decisions which Sykewar had to make from day to day.

Having recognized that there *is* a requirement for the intelligence support of psychological operations, it is necessary to consider the nature of the supporting activity. The problem may be approached by way of a comparison between the intelligence work produced in normal military operations and that required for conducting psychological operations.

Earlier portions of this book have shown that the end product of intelligence collection and processing is frequently an intelligence estimate, report, study or annex to a military directive. The essence of the intelligence estimate is an appraisal of enemy capabilities and their relative order of probable adoption, formulated so as to assist the military commander in reaching a sound decision for the employment of forces. In psychological operations, however, military concern is to influence target attitudes and to control target behaviour, usually through means short of the use of overwhelming physical strength. That is, in

psychological operations it is vulnerabilities rather than capabilities that are of principal military interest.

Current textual material prepared by the Psychological Warfare School of the Army discusses this concern with vulnerabilities:

Use of the term "enemy vulnerabilities" in military intelligence for combat operations ordinarily is related to the physical weaknesses which make the enemy susceptible to injury or defeat. Such vulnerabilities include lack of defensive terrain, shortages of important materials and equipment, transportation bottlenecks, and concentration of defense industries in overcrowded places which can be bombed or isolated.

In psychological warfare intelligence the term "enemy vulnerabilities" is related to sociological and psychological matters rather than to physical weaknesses. Vulnerabilities from the psychological warfare point of view are situations or conditions which can be exploited by the propagandist.

Sociological vulnerabilities, for example, may grow out of conflicts of interest between racial, religious, social, economic and political groups. They may result from the conditions in which people find themselves and be manifest in dissatisfaction with government policies, social conditions, or economic conditions or relationships.

Psychological vulnerabilities, on the other hand, are attitudes, aspirations and personality traits which when manifested in particular situations and circumstances indicate susceptibility to propaganda persuasion.

Although vulnerabilities are the matter of primary concern with respect to hostile target groups, their identification is not the sole requirement of the users of psychological warfare intelligence. The scope of psychological operations has been broadly defined to encompass neutral, allied, liberated, and analogous nonhostile audiences and to include conditions of peace and uneasy peace as well as conditions of war. Intelligence estimates on such target groups seek to present conclusions that will inform the operating agency how to gain an openminded and receptive audience, how to stimulate and encourage it, and how to create in it sentiments of agreement, sympathy, and understanding.

In these cases, the estimate must supply answers to such questions as: How can this policy of the

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United States be best explained to this audience? How can this obliqueness or apparent inconsistency in United States' actions be presented in the least unfavorable light? What values does American life have in common with this foreign society? How can a particular point of contact between Americans and a foreign group be directed so as to create mutual good will and cooperation? Lerner's illustration, above, of the Four Freedoms and the Atlantic Charter is a case in point when considering such varied nonhostile audiences.

To produce conclusions of the kind discussed above and to present them in a psychological warfare intelligence estimate, report, or study is a task easily recognized as one similar to that performed in the preparation of other intelligence estimates. The subject matters may differ, but the basic estimative process—proceeding from a mission stated or a problem identified for solution, through an analysis of factual elements, to conclusions that will be meaningful and useful to operations agencies—is analogous to the process illustrated in chapter 12.

A World War II illustration of a military use of psych-warfare intelligence is to be found in the case of the "Commander Norden" broadcasts to German submariners, a program directed by the United States Navy Department. "Commander Norden" was an intelligence officer in ONI, who possessed both fluency in the German language and comprehension of the German character. He had available such reliable information about current U-boat operations, conditions inside Germany, and even personal news of the families of some U-boat personnel that his broadcasts became very popular with U-boat crews. A byproduct of his psychological warfare operation developed in connection with general intelligence collection: "Commander Norden" became so well known and accepted by German submariners that captured personnel on more than one occasion declared that they would speak only to him about their experiences, for they believed that he could understand better than anyone else what they had undergone during their war patrols.

Peacetime Support

A peacetime naval operation in which psych-war intelligence can render service is that involv-

ing the visit of United States Navy ships to foreign ports. Here is an occasion calling for the paying of mutual respects between governments and between navies. The opportunity may arise for naval commanders to establish personal relationships with their opposite numbers and to cultivate good will between professional equals. Here, too, is an opportunity for creating favorable impressions of "the Americans" as a result of orderly, friendly, and informed conduct and manners of naval personnel visiting ashore.

On the other hand, there is also a substantial possibility that inadequately informed Americans representing their naval service may create ill will and generate unpopularity. Visitors abroad who are not sensitive, understanding, and respectful of the customs and the ways of life, as well as the hopes, fears and daily problems of a foreign society, may through their ignorance make poor representatives of their country. To foreign eyes the conduct of such visitors typifies "America," its manner of life and its pattern of societal behavior.

In carrying out the general purposes of the North Atlantic Treaty Organization, military missions representing the United States and its armed services are located in many countries throughout the world. In Europe, particularly, plans exist for the expenditure of large sums to build and maintain military facilities as part of the defense of that continent. Thousands of Americans in the armed services are living abroad, many with their dependents who too are representatives of the United States, in close daily contact with many other nationalities participating in the work of NATO. How well these Americans adjust themselves to their physical and cultural surroundings is a factor of considerable influence in the obtaining and retaining of national allies. Illustrative of this complex of problems in day-to-day living is the following report in *The New York Times* describing relationships between American military personnel and the native population at logistic bases in France:

Meanwhile, the presence of some 12,000 to 15,000 soldiers and airmen in sixteen camps scattered through the Bordeaux and La-Rochelle areas produces a daily crop of minor irritations and misunderstandings, based principally on differences of language, economic status and social custom.

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With few exceptions these factors condemn the two sides to isolation in an atmosphere ranging from toleration to mutual dislike.

Among the Americans' sources of irritation are high prices demanded by French landlords for housing that is judged to be totally inadequate by United States standards, the failure of the French to manifest the same sense of urgency about the defense task that the Americans feel, annoyance with techniques and procedures that Americans find archaic, and the infinite number of ways in which the social, cultural and hygienic patterns of Bordeaux, La Rochelle and Angoulême vary from those of New York, Minneapolis and Dallas.

To many Americans and many Frenchmen, a difference from their own standards is a defect.

In a situation such as the foregoing there is manifest the necessity for a continued information and education program to explain foreign surroundings and foreign peoples to our own military personnel, a program which is a companion piece to the psychological operation of explaining the American visitors to their native hosts. Both of these programs can be founded only on the material provided in intelligence studies that examine and analyze the characteristics of various foreign societies and that identify in particular those aspects of the foreign way of life that are peculiarly sensitive to the native of that culture.

Psychological operations are coordinated at the level of the theater command. At this echelon it is possible to plan and carry out a psychological campaign coordinated to support military operations within the theater and one in which the themes and appeals employed are consistent throughout the entire area of operations. Providing intelligence support at this level of command imposes a diversity of requirements, many of which already have been illustrated. It is likely that the theater of operations will include several countries and target groups that are both hostile and friendly, whose patterns of life may be those of fishermen, farmers, villagers, city laborers, and displaced war refugees.

A commander whose theater includes maritime areas may encounter further specialized psychological operations problems which intelligence must help resolve. For example, if he is required

to perform military government functions, he may become involved in the control of several maritime activities. It may be that the local fishing industry should be re-equipped and restored to production as promptly as possible to relieve food shortages in the occupation area and to provide employment for local residents. Fishing vessels and their crews provide a potential medium of external communication and so could represent a possible threat to military security and a channel for saboteurs and hostile agents. On the other hand, they may be able to give valuable support to our own maritime control measures and be capable of combating hostile resistance and obtaining useful operational information. Intelligence may ease the task of reconstruction and control by informing military government officials of the ways in which local cooperation can be obtained most effectively. What is true of the fishing industry is equally true in other situations in which naval commanders may be required to control, reorganize, and direct indigenous affairs in ways best calculated to obtain local cooperation. For instance, either under or apart from military government, naval personnel may become engaged in the rehabilitation of foreign ports so that they may be made available for logistic support of further military operations.

Other situations in which the naval commander may find a need for intelligence about one or another foreign area in the world may be visualized as a result of the Navy's characteristic capability of providing mobile logistic support to many kinds of operations in areas distant from fixed bases. Naval forces may expect to play a role in emergency evacuations of civilians and military personnel from danger areas, and the rescue and transportation of displaced persons or escapees from enemy areas.

Collection and Processing

The collection and the processing of information for psychological operations are the two activities of the Intelligence Cycle that best reveal the actual nature of the work. A partial description of these two activities has already been presented in foregoing discussions and illustrations. The chief subject for investigation is man in his social setting, a topic of concern to a number of branches of learning, particularly the fields of psychology,

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sociology, and cultural anthropology, but also to political science, economics, history, biology, and psychiatry. In the field of psychological operations the dependence of the military upon the academic is particularly evident, for psychological warfare still belongs as much to the scholar as to the professional soldier.

This dependence upon academic support is nowhere better illustrated than in the collection effort which is carried on in two distinct milieus, along two mutually-supporting but independent lines. One of these is basic research, the realm of the academician; the other may be called current psychological intelligence, the realm of the field observer and collector. Both functions are in reality specific illustrations of the fundamental collection process, first obtaining a mass of basic data and evaluating it through scholarly research, and thereafter augmenting it by specific pertinent items currently collected in the field.

In the collection effort, no component of intelligence knowledge, geographical, political, sociological, economic, military, scientific, or biographical can be ignored, for man, individually and collectively, may be influenced by any one of them. What is distinctive about intelligence for psychological operations is the particular point of view it maintains while performing its collection and processing tasks. The all-inclusive essential element of information is: What use can be made of specific facts of geography, economic, religion, or social customs in suggesting ways of affecting the opinions, attitudes, and actions of those groups of people whom it is desired to influence?

The following quotation from Ellsworth Huntington's book, *Mainsprings of Civilization*, illustrates the interdependence of the various components of intelligence knowledge as they explain the mode of life of man in the totality of his environment.

The seclusion of women in Moslem countries furnishes a good illustration of the way in which climate cooperates with other conditions in encouraging social customs which in due time become religious practices. The seclusion of women arises from the same human impulse as the private ownership of property. The possessor of something valuable wants to keep it for his own benefit. So far as women are concerned, this desire is more or less effective in most parts of the world, but rarely, if

ever, is it more highly specialized than in the harems of the Arabs, the zenana of the Hindus. The seclusion of women is most fully developed in the deserts and semi-arid regions from northwestern India across Persia, Iraq, Arabia, and Syria to Egypt and Morocco. . . .

The seclusion of women seems to have developed most fully in the oases of Arabia where it is appropriate to the geographical environment. So long as man is a mere hunter and gatherer of wild products, he cannot seclude his women, for the women must wander around searching for edible roots and grubs. Among pastoral nomads a similar situation prevails. . . .

Only after agriculture was instituted did the effective seclusion of women become feasible, but not in warm, moist countries with plenty of rain. There the normal material for huts is rough, crooked branches with a thatch of leaves or grass. It is difficult to make such huts so tight that people cannot peer in, and it is uncomfortable to cook or do other work inside them in hot, damp weather. Then, too, from time immemorial, the acre of the weedy crops around tropical dwellings has been woman's work. . . .

In a desert oases the situation is different. The most available building material is dry mud (adobe). Large, sun-dried bricks can easily be piled up to form walls. In the hot, dry air, the most comfortable place during the heat of the day is inside a thick-walled adobe house with a stout roof of the same material. Hence the women prefer to stay indoors many hours of the day. In such oases, agriculture can be carried on only by irrigation. An irrigated patch affords much temptation to thieves. Inasmuch as adobe walls can be built easily and last a long time, the common practice is to surround each "garden" with a thick wall seven or eight feet high. Thus, in the cooler parts of the day, when the women work outside the house, they are still sheltered from passers-by. . . .

A veil over the face is little hardship in such a climate. Both sexes crave heavy clothing in the heat of noon and again in the sudden coolness after sunset. . . . In the hot deserts then, such as those of the lower Indus Valley, Arabia, and the Sahara, the oases offer physical conditions which play directly into the hands of the jealous male who wants to seclude his women from other men. . . .

Another factor may enter the picture. The men of the hot desert may have unusual cause for jealousy. In extremely hot weather people's ability to resist emotional impulses, in-

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cluding those of sex, appears to be weakened. Sexual extravagance and prostitution seem to reach a maximum in the hottest parts of the world, that is, the dry parts of a belt located ten to thirty degrees from the equator. Animists, who usually live in moist, forested regions which do not have such extreme heat as the monsoon regions and deserts, appear to be sexually less excitable than Hindus, Arabs and other Moslems. . . .

Now let us see what happened when Islam, in its great wave of conquest, imposed its customs on conquered nations. If the conquered countries were so dry and warm that irrigation and mud-walled houses and gardens were normal, the seclusion of women could readily be introduced and would do relatively little harm to health . . . As (Islam) spread eastward in the Indo-Gangetic Valley the custom became less and less appropriate to the climate and hence more and more harmful. The Indian province of Bengal, near the mouth of the Ganges, was conquered by Islam more than seven hundred years ago. It now contains about thirty million Moslems. . . . From May to September . . . the temperature averages from 82° to 86° . . . the air is constantly humid . . . Under such conditions, even though one perspires freely most of the time one is not thereby cooled because there is such great humidity. A stay in the stagnant air indoors is a kind of martyrdom but the outdoor air is not much better; there are no mud walls for shelter, and a cotton sheet that swathes the head and covers the face is most uncomfortable. Nevertheless, the Moslem women, especially those of the upper classes, are counted as grossly irreligious if they fail to keep themselves well covered, face and all. Thus, by being converted into a religious requirement and then being transported to a new physical environment, a relatively harmless social custom has become a great detriment to health as well as comfort. . . .

What are some of the principal lines of investigation in basic intelligence research for psychological operations, and how are investigations in these areas undertaken by the armed services of the United States? Such studies are carried on by analysts, civilian and uniformed, in the research and intelligence agencies of the respective armed services, and also by private educational institutions and civilian scholars whose research is specifically sponsored and financed through contracts with one or another of the armed services.

Research

For the Navy, the Office of Naval Research through its Psychological Sciences Division, and in particular through the Human Relations Branch of that division, is the contracting agency that sponsors private researchers. The Army conducts research through the medium of two agencies, Human Resources Research Office and Operations Research Office, each of which is under the supervision of a leading American university. The Air Force has organized a Human Relations Research Institute as a part of the Air University at Maxwell Field, Ala. The Air Force also uses the Rand Corp., whose research activities have been described previously in this volume.

The specific subjects for potential investigation within such general fields as anthropology, psychology, sociology, history, economics, political science, psychiatry, and biology are, of course, practically without number. Some of the areas for study which have self-evident relationships to ultimate military applications are described below. The most pressing task of basic research is to provide data on those peoples and societies whose national strategies are a threat to the United States and to a peaceful and stable world order. However, in view of the Communist tactic of fomenting economic, social and political unrest in whatever part of the world it may be latent, it is necessary as a second priority to study almost every national society having a potential role in the conflict between the free and slave worlds.

Typical examples of research on the U. S. S. R. and its leaders are two publications of the Rand Corp. entitled *The Operational Code of the Politburo* and *The Organizational Weapon: A Study of Bolshevik Strategy and Tactics*. A series of studies on other aspects of Soviet life have been undertaken by the Russian Research Center established at Harvard University in 1949 with the aid of a grant from the Carnegie Corporation. The first of these, *Public Opinion in Soviet Russia*, by Alex Inkeles has as its purpose:

. . . to explain how Soviet mass communication works, and why it has the particular characteristics it possesses. But it is by no means intended primarily as a technical discussion of the Soviet press, radio and film. On the contrary, I hope that this work will

promote a more adequate evaluation of the implications of the Soviet system. Since exposure to a steady flow of propaganda and agitation is a major facet of the daily life of every Soviet citizen, no assessment of his life situation can be complete if it does not take account of that fact. Furthermore, Soviet philosophy and practice in the realm of public opinion are important indexes to the nature of the regime.

Other publications of the Research Center include *Justice in Russia: An Interpretation of Soviet Law* by Harold J. Berman and *Soviet Ideology and Power Politics: A Study of the Role of Ideas in Social Change* by Barrington Moore, Jr.

Independent scholars have likewise made some important contributions. In the field of economics, Solomon M. Schwartz in *Labor in the Soviet Union* describes the workingman in the U. S. S. R. not as docile and enslaved, but still struggling to be free. The evidence is provided by reports of dissatisfaction and individual conflict filtering from behind the Iron Curtain, a vulnerability of interest to planners of psychological operations.

Thus research contributes to knowledge of the nature of man, how he is motivated, how he exists in his particular culture, and what the characteristics are of that culture: its folkways and institutions, its system of rewards and punishments, its capability or its brittle inflexibility toward self-adjustment when externally stimulated. These are the avenues along which research proceeds always seeking to provide fundamental data in answer to the questions Operations asks of Intelligence: How can we cause this particular society to run like an improperly adjusted engine, to overstrain, to slow down, to fly apart, or alternatively to gain new strength, further hope, fresh determination and a revived will to achieve?

Further Collection and Processing

The second major subdivision of collection and processing may be labeled "Current." It consists of adding fresh individual items to basic knowledge concerning target societies. Its activity is typified by the work of collectors in the field such as naval attachés, and information obtained from travelers, defectors, and prisoner of war interrogators. All of these must be made aware of potential sources of information of value to psycho-

logical operations. Collection may proceed also through the media of technological devices, such as aerial cameras and radio monitoring equipment, or through the application of scientific knowledge and techniques of analysis, as in the case of the examination of captured equipment and material. Any of these instrumentalities may provide further insight into one or another aspect of the conditions of life within a target society.

One particular task of processing deserves special mention: the necessity for translating the data compiled by basic research into terminology and specific conclusions (hypotheses) that will assist concrete operational planning. A military commander will not appreciate being handed a scholarly text and being told by his intelligence officer: "Sir, here is all the information we need about the oppressive economic conditions in Lower Slobovia." The argument and analysis of the professional researcher must be reduced to terms that suit the immediate requirements of the professional soldier.

In processing information for potential use in psychological operations, it is essential constantly to keep in mind the possible specific operational applications of the data under analysis. An article entitled *Effective Propaganda: Conditions and Evaluation*, which appears in a volume, *Propaganda in War and Crisis*, edited by Daniel Lerner, sets forth the "conditions of effective propaganda" that may help to synthesize research and orient it and the researcher himself to operational applications:

The manipulation of expectations is an instrument with powerful uses, but also with definite limits. The uses will be better served if the limits are clearly understood. The fundamental limitation is inherent in the instrument: its strategy is *persuasion* and its vehicle is *symbols*. Propaganda does not change *conditions* but only *beliefs about conditions*; it cannot force people to change their beliefs but can only persuade them to do so.

Under what conditions are people most likely to be persuaded by Symbols to modify their expectations of the future, and consequently their behaviour in the present? . . . Several main points are clear, however, from recent experience. We may summarize these lessons by stating four essential conditions of effective propaganda:

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- (1) The *attention* of the audience must be secured.
- (2) The *credence* of the audience must be secured.
- (3) The *predispositions* of the audience must include the modifications sought by propaganda as plausible alternatives to present expectations.
- (4) The *environment* of the audience must permit the course of action prescribed by the modified structure of expectations.

These conditions seem obvious upon statement. To persuade a man to do what you tell him, you must first get him to listen to you. Once you have his attention, you must get him to believe what you say if he is to take your message seriously. His credence gained, what you tell him to believe must be within the realm of his existing predispositional structure of expectations and aspirations. It is a waste of words to try to persuade a loyal citizen that he would rather see his nation lose a war than win it; no such alternative preference is possible within his predispositional set. But it may be quite possible to persuade the same man, once you have gained his attention and credence, to believe that the nation is going to lose a war. . . .

A fourth condition of effective propaganda is that the actions required of the audience by their modified expectations should be feasible in the enviroing circumstances which define for them the limits of meaningful behaviour. It would make no sense, for example, to call on Soviet citizens in Vladivostok . . . to assassinate Stalin or imprison the Politburo. . . . Indeed, the impracticability of such action might lead to the utter rejection of our statements, otherwise plausible, because they impose obligations impossible to fulfill.

The extent and emphasis of processing will depend, of course, on the subject matter. For example, the analysis of enemy radio propaganda is valuable intelligence, for it provides data on the particular themes that the enemy desires to emphasize to particular audiences at specific periods of time. This is sometimes labelled "content analysis" or "propanal" (propaganda analysis) which was used with some success in World War II to predict future enemy military operations. Such a processing task differs greatly from that of "pre-testing" possible propaganda themes by trying them out on a cooperative group of enemy prison-

ers of war in order to determine thematic effectiveness and authenticity.

Another specialized collection and processing task is to obtain and evaluate data for evidence of the effectiveness of previous and current psychological operations. This is a correctional function, a validation test, carried out so that future undertakings may benefit from past experience. It may consist of conducting a public opinion poll in a friendly foreign country for the purpose of ascertaining listener reactions to the programs of the Voice of America.

In addition to theme-analysis, another variety of processing must be carried out for the purpose of determining what words, expressions and symbols will most forcefully drive the message home to a given target group. Lerner, in *Sykewar*, illustrates this point:

For example, an effective linguistic device for Sykewar was the use of the enemy's own words and phrases, within a context supplied by one's own propagandists. This was particularly useful on the radio, where it gave some Germans the feeling that their enemy was omniscient. . . . There is evidence that some Germans were amused, bewildered, and sometimes even frightened by the rapidity with which Allied radio retold anti-Nazi jokes as they became current in some part of Germany. For this sort of operation, Sykewar required intelligence reports that Rhineland Germans had taken to calling Nazi party functionaries *goldene Fasanen* (in addition to the older term *Bonzen*); or that in Berlin, Goebbels was commonly known as *Supphen*; or that, on a more serious level, the pervasive counterargument that Germans were developing against Allied charges of German guilt was expressed in the phrase that they had been *belogen und betrogen*.

Intelligence, as an aid to Sykewar operations . . . brought in both the German stories and the very words in which they were told. The value which output personnel put upon this type of intelligence is indicated by David Hertz, who was in charge of radio Sykewar against the besieged German garrison at Lorient: "Our existence as a functioning tactical weapon depended on intelligence from prisoners. We ate, slept, and drank with prisoners. Many nights I was awakened by members of our crew dragging in deserters, who sat on my bedroll, dropping the waters of the river Scorff as they told us the

latest Winchell dope on what went on inside the fortress."

The collection and processing of information useful for psychological operations are not, however, limited to intelligence specialists and scholars. In present-day circumstances, where such a variety of potential uses for psychological activities exists, possible vulnerabilities may be no trade secret of intelligence analysts, but rather may be susceptible of identification by any perceptive reader of the daily newspapers and current periodicals or by any observer of international affairs.

What can be read and observed comprises the raw material that is grist for the mill of current psych-warfare intelligence. An awareness of the wealth of raw material that can be gathered by the nonspecialist is perhaps as cogent a reason as

could be cited for naval officers without extensive specialized training in this area to become and remain sensitive to potential exploitable opportunities in the realm of psychological operations. It is important that those whose travels, duty assignments, or other contacts afford opportunities to observe foreign social orders in operation be constantly alert to observe and report on situations and events that may be capitalized on by planners of psychological operations. It has proved unsatisfactory in practice to attempt to specify to a new naval attaché, for example, just exactly what to look for to aid psychological operations. It has proved far more suitable to explain to him what it is and what its requirements are—which is precisely what this discussion has attempted to do.

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CHAPTER 15

COUNTERINTELLIGENCE

From the definitions of chapter 1, it was learned that counterintelligence, just as intelligence, is knowledge, organization, and activity, but that these elements are applied to the specific mission of opposing the enemy's intelligence effort, both defensively and offensively. Counterintelligence contributes to and draws from the whole body of intelligence knowledge. Its organizations are not only a part of Intelligence, but often are one and the same. Its activities can be identified with the steps of the intelligence cycle. It is equally important in peace and war. The differences are in purposes, points of view, methods and technique. To be a good counterintelligence officer one first must be a good intelligence officer.

Because of the diversity and covert aspects of counterintelligence activities, and because these activities are not restricted to the intelligence organizations of the armed services but are associated with all agencies which contribute to national security, centralization of control is essential to effective counterintelligence operations. Nowhere is this requirement more evident than in time of war when our own counterintelligence efforts in widely separated parts of the world must be coordinated with those of our allies. For example, during World War II, Naval Intelligence received information from a naval source in South America that an individual in Europe, about to embark on a Spanish ship for Argentina, was an important German espionage agent. Although given a low evaluation, this information was promptly relayed to British Intelligence whose agents removed the suspect from the ship at Gibraltar and determined that he was in fact entrusted with a highly important mission by the Germans.

The Armed Forces Staff College manual, *Counterintelligence—Theater of Operations and Joint Overseas Operation*, makes this pertinent comment on the need for coordinated control:

There is no significant difference in the mission of counterintelligence in the ground,

naval, and air forces and all Services share in the responsibility of carrying out this mission by both active and passive measures. However, the relative number of personnel devoted to counterintelligence is greater in the ground force than in the other two because of the better opportunity afforded the enemy to penetrate our counterintelligence screen by constant contact of opposing ground forces and the presence of indigenous or displaced populations in the combat or occupied areas . . .

Counterintelligence means available to all forces are extensive, and to secure their effective employment requires close coordination by theater headquarters.

During World War II, the Army Counter Intelligence Corps had a major responsibility for counterintelligence in overseas theaters. While the Navy's counterintelligence efforts were more concentrated within the domestic theater, its interests were equally, and of necessity, worldwide. Practically speaking, counterintelligence interests cannot be arbitrarily separated according to areas, because foreign intelligence organizations usually operate on a broad front without regard to areas of special cognizance; hence, all counterintelligence agencies must be concerned with the totality of counterintelligence knowledge.

In the successful achievement of its mission, counterintelligence has three objectives: first, to locate and identify the aggressive efforts of hostile intelligence organizations; second, to deny correct information or access to vital areas to an actual or potential enemy; and third, to deceive and mislead him. This chapter will discuss the nature of hostile intelligence activities, measures and techniques to counter them, and organizations most directly concerned. The subject is difficult to discuss because of its sensitive nature and the complexities of the areas of human behaviour with which it is concerned. Post-World War II developments have magnified the responsibilities of counterintelligence and have led to new problems in their interpretation.

Before proceeding to a discussion of counterintelligence measures it will be appropriate and

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helpful to consider first the need for counterintelligence and the nature of the organizations and activities which must be countered.

THE NEED FOR COUNTERINTELLIGENCE

The current compelling need for counterintelligence was created by the purposes and methods of the Soviet Union in the years following World War II. This need was accentuated by the operations of the Soviet Intelligence System, reviewed in an earlier chapter, as well as by the tremendous growth of organized intelligence activity all over the world.

Attempts to calculate the size of current world intelligence operations in terms of personnel and expenditures are, of course, speculative. However, as of 1949, the United Nations World estimated that the United States, Great Britain, and the U. S. S. R. were employing approximately 24,000 operatives, while smaller nations were utilizing another 15,000-20,000. The estimated total cost annually was set at \$248,000,000. No attempt was made to estimate the additional part-time personnel, whose total number might be astounding. In the same year, an estimate prepared for Great Britain's Ministry of Defense indicated a world total of intelligence operatives in excess of 250,000, actual or potential. By contrast, in 1938, a year of particular tension, the total number was estimated at no more than 12,000, of whom about 5,500 were employed by Nazi Germany. Irrespective of accurate figures, it may be assumed that the extent of intelligence activities in the world today is greater than ever before. One indication of this possibility is the increased number of operatives who have been apprehended since World War II in widely separated areas of the world.

The challenge to all counterintelligence organizations comes not only from the dimensions of this world-wide intelligence activity, but even more from changes in methods. The case of the British scientist, Klaus Fuchs, for example, can scarcely be viewed as an isolated example. When placed in context and related to personalities and events in Canada and the United States, it indicates a dangerous trend toward the use of citizens to work against their own country. As a result foreign intelligence activity has become related to treachery and interwoven with political propaganda.

Whereas, in the past, speech accent and physical characteristics might have provided leads for counterintelligence operatives, at present the only clues may be the expression of thoughts and ideas. Nor can counterintelligence problems be easily isolated to relatively few areas or nations. Active Soviet confederates are to be found in practically every country of the world; the world opponent of the United States, therefore, is two-headed, consisting not only of the U. S. S. R. but also of the militant organization of world communism. As a consequence, counterintelligence is confronted with a task involving unfriendly, neutral, and friendly nations of all continents of the world.

The very nature of the cold war, with concepts and methods so alien to those of other wars in modern times, poses new problems for military and political leaders, the solutions of which become in turn new problems for counterintelligence. For example, the voluntary prisoner repatriation issue in the drawn-out truce negotiations of the Korean War brought new tensions to the United Nations Organization and to relationships of the United States with other nations, including Great Britain and India. Riots and bloodshed in prisoner compounds on Koje Island were made a subject of vicious Communist propaganda directed against the United States. In January 1953 evidence produced by the United Nations Headquarters of Gen. Mark Clark in Tokyo indicated that the communist delegates conducting the truce negotiations had simultaneously planned and organized these riots, through a "guidance bureau" which had trained special units for camp riots and supervised their infiltration into prison compounds. Here was a new task for counterintelligence with widespread political and military implications.

Principal among the hostile foreign intelligence activities to be countered, which may or may not stem directly from foreign intelligence organizations, are espionage, sabotage, and subversion. An understanding of each is necessary to fully appreciate counterintelligence measures.

ESPIONAGE

In earlier times, the term "espionage," or "spying," was practically synonymous with the word "intelligence." In modern usage, it is broadly defined as the activity of spying on others, the

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employment of spies or covert agents, or the systematic secret collection of information regarding potential or actual enemies or potential or actual theaters of military operations, including terrain and weather. Its purpose is to gather in advance such complete and detailed data, normally protected from exposure by a nation, as will assist in planning for defense or attack, or by which influence, power, or control over other nations can be gained. No item or fact is too fragmentary or unimportant for collection and reporting.

Generally speaking, the two types of espionage methods are *designation* and *saturation*. Numerous examples of both types are presented in chapter 2: The Soviet spy system organized to gain information about the atomic bomb is illustrative of the first, while the mass utilization of Japanese citizens abroad prior to World War II is an example of the second. Espionage by designation refers to the assignment of particular agents, many of whom are carefully trained, to specific targets or to the collection of certain highly significant "missing" items of information. Such agents usually seek to gain access to key individuals in governmental, military, or business affairs and to develop a network of exclusive informers. Espionage by saturation is a large-scale operation by many hundreds of individuals few if any of whom are trained for their assignments. It is a buckshot method of hitting a target, involving the collection of volumes of information much of which may be neither pertinent nor useful. Quality of personnel and material is sacrificed for quantity on the assumption that a careful processing of the results will produce much that is usable and important to the total intelligence effort.

The popular conception of espionage activity is that it is exciting and glamorous, with a background of luxury hotels, exotic foreign capitals, beautiful women, and hot pursuits in fast, sleek cars. There are, of course, moments of excitement, but it has been said by confessed agents that the time of greatest emotional excitement and stimulation for the spy comes when he is caught. Actually, the life of an espionage agent is often quite dull and commonplace, for just as the sailor in a ship, he experiences long periods of tedious routine and monotonous waiting, relieved only occasionally by danger and suspense. Work hours may be

long and tiring and not as filled with hairbreadth escapes and quick journeys as in fictional accounts.

The typical agent is inconspicuous and impossible to identify from appearances because he may be recruited from any social group, upper, middle, or lower classes. Espionage agents come from all walks of life, with different habits, varying characteristics and capabilities, and individual patterns of behavior. Indeed, on occasion, some rather ineffective people have been employed as agents in order to conceal the activities of those more capable and expert. Age, physical and mental characteristics, and social or economic status are no criterion for identification. An agent will often be a native of the country, in which he is to work or will have lived there for a long period of time; the most dangerous is the ordinary citizen who, for one reason or another, has decided to release important classified information to an enemy.

While no identifying characteristics of the individual agent can be pointed out, there are four general classifications based on mode of operation and assigned mission: diplomatic, fixed, special, and roving.

Depending upon the particular country, diplomatic agents may be consuls, diplomats, military and naval attachés, observers, members of special missions, or other quasi-official representatives, any of whom may aid or direct espionage activities. As has already been indicated, the practice of individual nations varies considerably in the use of their diplomatic personnel for such purposes, although the governments of Russia have been notorious in so doing.

The fixed agent often poses the greatest threat to a nation's security because he is assigned to a given area on a more or less permanent basis. His objective is to become an established, respected citizen of his community, of unquestioned loyalty and reputation, and with a profitable business or comfortably retired. His "cover" may be that of a doctor, storekeeper, farmer, or retired businessman—preferably any occupation which will permit the greatest possible activity at the least risk. Because of the importance of this type of agent, he may reside in a locality for years without receiving any assignments or being contacted by any of his superiors. His objectives may be the in-

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filtration of military installations, close association with military personnel for the purpose of gleaning information, or the covert observation of military establishments and activities. He may have responsibilities for establishing, training, and directing networks or cells of agents in his area or acting as a point for transmittal of information, or "letter drop," for other agents.

The special agent is handpicked to obtain specific information because he is well-versed and highly trained in a particular field or in the procedure by which the information is to be gained. Usually the special agent has been thoroughly indoctrinated at an espionage school so that he is prepared to assume any disguise, to enter a country legally or illegally, and to carry out his work for as long as necessary with plausible reasons and legitimate proof to back them up. Officially denied, these agents sometimes work under the supervision of diplomatic or fixed agents or directly under the instructions of the intelligence service by which they are employed. In addition to collecting specific information they may serve as special organizers, inspectors, supervisors, or couriers.

As his designation implies, the roving agent is not confined to a particular area, but may cover many, collecting general information in various categories or specific information in one. His problem, of course, is to have a credible reason for extensive travel. In the course of his work he may conduct personal observation and investigation of intelligence targets, penetrate installations for short periods, and make brief contacts with other agents. Related to this class are part-time agents or informers, usually employed for a particular mission because they have or can obtain information of special value. Once committed to such work, and hence subject to blackmail, they are usually available for further employment as required and necessary.

The motives which impel men and women to enter espionage service are many and varied, from fear, greed, or love of adventure to idealism or patriotism, particularly if the individual is imbued with love of a country or a cause. Often a combination of reasons provides the motivation, although money is one of the more common. The ideological motive usually produces the most

faithful and reliable agents from among the intellectual and professional groups who are stimulated by the vision of a new world order. Some may not actually realize the implications of their position as enemy agents or, if they do have an uneasy conscience about their activities, may rationalize them as consistent with an inevitable course of events. These sympathizers provide an excellent means of penetration into government agencies and are most difficult to discover because their records are good, they have no obvious connections with intelligence organizations, and are often subjected to open attack by front organizations. Financial rewards are of little consequence to the ideologically inspired.

Many of the best agents are members of the military, naval, or diplomatic services who are professionally motivated and trained to carry out their assigned missions in a most competent manner. The desire to be on the winning side strongly motivates certain potential agents. They must be particularly watched during periods when an enemy has won the temporary advantage. Prestige and love of adventure also have a strong appeal, particularly for young people. Illusory though they may be, these motives have proved influential, as for example, among members of the Hitler Youth Organizations during World War II. In enemy-occupied areas some individuals under pressure will become intelligence agents to avoid other forms of service, such as in labor camps, or those involving transfer to foreign areas. An overwhelming urge to return home may make a person a willing "line-crosser." Under pressure, however, they often will abandon their mission or volunteer the information they have gathered. Criminals may become agents as an alternative to imprisonment; apprehended agents may be spared on condition that they work for an enemy. The latter become "double-agents," working for both sides. Dr. Richard Sorge, whose case was mentioned in chapter 2, is a good example of the double-agent.

During World War II, many of the German agents who came to the United States were motivated by both greed and fear, especially fear of reprisal against their families left behind in Europe. In the case of Soviet agents, patriotism has seldom been a factor since many nationalities

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have often been involved in the same network. In his book, *Handbook for Spies*, Alexander Foote has given an interesting fictional account of his recruitment as a Soviet spy during World War II. He suggests that the motivation of spies is often difficult to determine and that, in his own case, he was for some time unaware of the objectives and general purposes of the organization he served.

The native attributes of any individual selected for full-time work in espionage most certainly include common sense, good judgment, the ability to size up a situation correctly, and adaptability in learning and using necessary arts and sciences. Personal courage, alertness, and complete self-control are also essential. Bravery in company is one thing, but bravery alone is another matter, especially when the threat to exposure is constant. Mental and emotional stability, physical vigor, and stamina are prime requirements. Intoxicants must be used with great discretion, and romance has often been fatal. Therefore, it must be assumed that nations employing covert agents apply the most exacting standards in their selection.

Mental, emotional, and physical qualifications are only the foundation for the most intensive training which must develop others more specialized, such as knowledge of foreign languages and skills in microphotography and means of communications including wireless telegraphy and secret inks. The curriculum of the Leningrad Espionage School as reported by the International News Service from Athens, Greece, in April 1952 is indicative of the range of subject matter. During the course, which lasts for about 1 year, students are instructed in chemistry (atomic science), mechanics, drawing and sketching, fortifications and geography, sources of raw material and industrial output, and details of industrial production in the United States, Canada, and South America. Political studies cover the history of communism abroad as well as in the U. S. S. R., and students must become proficient in either English or Spanish. Other subjects studied are the organization of foreign armies and their weapons, topography, photography, radio operating, and deciphering. Each individual must learn how to conduct himself if captured, in prison or during trial, and he

must know how to plan an escape and return to the U. S. S. R. either through legal, diplomatic channels or illegal routes, making use of false passports and disguises. Finally, instruction is given in the transmission of secret messages and the use of agitators and dissident groups. All students at the Leningrad School are, of course, politically reliable. In addition to Russians and satellite nationals, some foreigners are accepted as students, although fictitious names are the rule and correct identity is concealed.

It must not be assumed that such a curriculum is necessarily exhaustive of the possibilities. Others might include safe-cracking, counterfeiting, and a detailed study of the local customs, mannerisms, and peculiarities of the particular area to which the agent is to be assigned. The perfection of cover stories, concealment of all identifying clues, evasion of surveillance, and clever alterations in identity all have a place in specialized training. Regardless of the specific subject matter, most espionage organizations have their own training schools which usually have instruction in the following five areas: Types of information sought, techniques for obtaining it, selection and perfection of a cover, means of transmission of information, and methods of entering the target area.

Means of gaining access to a general area are, of course, varied and depend upon the circumstances. During wartime, typical means include line-crossing, sea-coast landing, parachuting, and remaining behind as the enemy withdraws. Orientation within an area may be difficult because the agent often lands at some distance from his intended destination and must avoid carrying maps or inquiring directions. Other problems may include obtaining proper identification papers and documents. Obviously, the names and addresses of the agent's contacts will be memorized and he will carry only such papers as are customary for his particular cover.

The large-scale movement of immigrants, refugees, and displaced persons since World War II has provided agents with an excellent means of entry into their target areas. Simulating the pitiful circumstances of refugees escaping from persecution, they have been able to reach their destinations in sizable numbers with marked success. For example, it has been reported in the public

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press that Americans with friends or relatives in Communist-dominated countries have become victims of blackmail and forced to sponsor the entry into the United States of trained agents posing as refugees from Communist oppression. Lists of such potential sponsors have sometimes been compiled from parcels sent through the mails. Exchange students also provide excellent cover for espionage activities, as do businessmen, merchant seamen, and tourists who have legitimate reasons for entering a country.

Once within a target area the agent must adopt some disguise or "cover" which is suitable and logical to justify his presence. The cover adopted is normally an activity in which the agent is proficient through previous employment; engaging in unfamiliar work will more readily lead to eventual discovery. The cover of a servant is a good one for both men and women, especially those with traces of foreign extraction. Maids, cooks, butlers, and chauffeurs become intimates of households, and can logically obtain information in a variety of situations. For example, an agent posing as a chauffeur installed a recording device in the automobile of a high government official, and thus obtained valuable information for a number of years.

Hotel employees often have served as contacts between agents and as letterdrops. Bellhops, desk clerks, and maids can easily overhear conversations and, in wartime, have gathered vital information from military personnel. The transient nature of such work and the minimum qualifications are of considerable advantage. The entertainment profession provides a highly desirable cover because it is international in nature and brings together widely varied groups, the size and diversity depending, of course, upon the popularity of the individual entertainer. Frequent travel lends legitimacy to wartime movement into many areas, including military installations. The travel factor combined with the ability to make friends quickly and easily in the right circles, makes this cover particularly effective.

Trades and industry have also been used for cover purposes, especially importers and publishers whose business involves foreign transactions in peacetime and the maintenance of connections with neutral countries in time of war. Communi-

cations workers, contractors, and engineers are good covers for obtaining vital military and economic information. Diplomatic cover, of course, has the added advantage of security through diplomatic immunity. The agent cannot be arrested but only requested to leave the country; hence some diplomatic missions have been established only for intelligence purposes. It is apparent that the types of cover are many and varied; those mentioned only indicate the tremendous range of possibilities.

Techniques

The techniques of espionage are almost as diverse as the types of cover; the particular one selected will depend upon the area involved, the information desired, and the degree of difficulty anticipated or encountered. Some of the more common can be listed, although it must be emphasized that there are many other possibilities; they are often used in combination, and are not the exclusive province of the espionage agent. Penetration, the physical entry of an agent by normal procedures into an organization or installation for an indefinite period, is an ideal method for personal observation and reporting. Targets for this technique are industrial plants, military installations, laboratories, newspapers, radio stations, government statistical and intelligence agencies, political parties, labor unions, and any other agency or organization which may be concerned with information of intelligence value. Military services and government offices are particularly important targets and agents may enlist or start work in the lower echelons, gradually rising to positions where classified information becomes available. Direct observation, without actual penetration, is usually a more hazardous and less profitable technique, for it depends entirely upon the available means of cover, especially if cameras and binoculars are required.

Employment agencies, language schools, and training schools are sometimes organized specifically to facilitate penetration. Fire inspection surveys by agents supposedly representing insurance companies, or actually operating out of such companies, have been a good approach. Bribery, theft, and purchase of documents, plans, and information have taken advantage of men's

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weakness in every generation. The development of friendships with individuals possessing important data, and their subsequent subtle interrogation making full use of flattery and conviviality have been effective. Where this method has failed, and under certain circumstances, outright abduction of specialists and important personages has been practiced, especially by the Soviet Union in modern times. Search of the personal effects of those believed to have vital information is sometimes facilitated by employees who have ready access to such effects.

Reproduction by copying or photographing models or documents which are only temporarily available can be secretly accomplished so that no suspicion is aroused. The actual appropriation of materials, where such are desired, is often aided by clerks, janitors, and other regular employees, either knowingly or unwittingly. The adroit use of informers is a common espionage technique. Many intelligence services maintain lists of such persons in every country for appropriate use by agents.

Although the first major task of the espionage agent is to collect information, the second, that of transmitting it to his superiors, is of equal importance, for only when they have received it is the process of espionage complete. For this reason, successful methods of communication are vital and advance preparations for them are given the most careful attention. In modern times, the predominant method is the use of concealed radio transmitters and receivers of suitable size and power. In addition to range, other factors for consideration include source of power, operational wave length, antenna length, and atmospheric conditions. During World War II a number of excellent radio sets for espionage use were developed, especially by the Germans, some of which were about the size of a shoebox. More recent electronic developments have reduced the size even more and made the problem of concealment easier. The necessity for an adequate antenna creates special problems in the location of a transmitting set, so that night is the usual time for operations. Since height is a factor, preferable transmission sites are hilltops or high buildings except when communications are directed toward aircraft in the vicinity. The advantages of radio for trans-

mission are speed and comparative reliability; some of its disadvantages are the equipment required, training in its use, and the risk of discovery. Anyone with a receiver covering the proper wave length can receive the transmitted signal, and the agent never knows when his activity has been detected by radio security units. As a result, his transmissions must be brief and infrequent and his location must be changed often or subject to change on the shortest notice.

In spite of the risks of interception, public mail service is often used to transmit information. During peacetime, the risks in many countries are reduced and mail is sent direct to commercial or private addresses used as covers; in wartime, cover addresses will be located in neutral countries. Under either condition, letters, newspapers or periodicals, ships' mail, and microphotographs may be the means for utilizing mail service, and such means may employ codes or secret inks or both. The potentialities of microphotography are particularly amazing, since a sheet of paper may be photographed and reduced in size to a pinpoint of gelatin which may be hidden in the gummed sections of an envelope or used as a punctuation mark in a letter.

There are many other methods for transmitting information for intelligence purposes, including couriers, pigeons and dogs, heliographs, light signals, infrared rays, supersonic waves, clearing-houses in neutral countries, secret letterdrops, persons, even children acting as fronts, and coded messages ingeniously placed to be visible to the intended recipient. Because of the possibilities of interception, couriers are seldom used except when the transmittal of maps, objects, and photographs becomes vital; the diplomatic courier has the obvious advantage of customary freedom from search or censorship. Pigeons and dogs have been employed for centuries, although the risk of interception is great and the amount of material which can be transmitted is limited. Infrared-ray equipment has special advantages and scientific developments in the field of secret communications continue to provide other devices of high potential value.

While the activities and techniques of espionage have a range which almost defies the imagination, it should be recognized that they are the cumula-

tive result of brilliant, if sometimes almost perverse, imaginative genius that knows no limits. No possibility, therefore, can be brushed aside as too impractical or improbable. Even more, modern espionage is a comprehensive, skillfully organized business with a major objective of collecting all possible information about planning, policy, and military secrets. Published reports by such prominent and informed persons as the Director of the Federal Bureau of Investigation suggest that this activity in the United States is organized on a scale incomprehensible to the average American citizen, more pervasive than ever before, and potentially more dangerous. Literally thousands of people, many of whom are American citizens, are reported to be associated with espionage, attempting to transmit to the Soviet Union information which might aid that country in the cold war or in open conflict. The possibility exists that such persons may be located in government agencies, labor unions, key industries, and scientific organizations. The realities of espionage in the United States should be seriously regarded.

SABOTAGE

For the purposes of discussion, the subjects of espionage and sabotage will be considered separately, but it should be kept in mind that their activities are often interrelated, the personnel may be one and the same, and methods may be complementary if not identical. Espionage is damage to national security by the acquisition of vital informational items; sabotage is damage by injury or destruction of important physical items. The word "sabotage" originated in the industrial revolution of the 19th century when hand weavers of northern France and the Low Countries fearing loss of their jobs, often kicked their sabots into the new textile weaving machines in an effort to destroy them. In modern usage, sabotage is more broadly defined as "the malicious disruption or attempted disruption of the normal functions of a nation in any manner which intends or apparently intends to injure, interfere with, or obstruct the national defense or war potential of that nation." The term is sometimes applied to certain activities of a secretive nature, such as some aspects of psychological and economic warfare and projects

of subversive political groups which do not result in obvious physical damage.

Three general purposes of sabotage are to weaken the war potential or war effort of a nation, to impair its internal strength and external influence, and to dislocate its economic system. Damage to a nation's productive industrial facilities can directly affect its fighting capabilities on distant fronts, while sabotage in the area of operations can cause a breakdown in lines of communications and prevent a commander from accomplishing his mission. Internal weakening of a nation may disrupt its economic and political structure so that it not only cannot meet its international commitments but also may be faced with social strife leading to revolutionary activities. The complexities, interrelationships, and concentration of modern industrial plants magnify the potential effectiveness of sabotage, for the destruction of a few vital machines and damage to a few vulnerable plants can, like a chain reaction, immobilize thousands of others.

Sabotage need not be direct damage or destruction: it may be much more subtle, such as the undetected substitution of destination tags on shipments of important supplies. Nor can it be assumed that every act or attempted act of sabotage is the result of the directed effort of an employee of a foreign service. Sabotage may be closely related to international developments, but it may also coincide with domestic labor disputes or extreme dissension among industrial personnel. Acts of violence and destruction can and have been traced to malicious and dissatisfied individuals who have no other motive than revenge or jealousy. In any event, it may be assumed that *sabotage will be directed against points of greatest vulnerability.*

Types of Saboteurs

The German Nazis, the Italian Fascists, and the Russian Communists have all advanced the doctrine that service to the state justifies any act which will aid its cause, with the result that injury and destruction of property evokes no personal sense of wrongdoing. The two basic types of saboteurs are the trained agent operating under the instructions of a foreign intelligence service, and the independent, usually untrained, malcon-

tent acting for personal reasons with no foreign connections.

According to the time element of their assignments, saboteurs may also be typed as long-range and short-range agents. The long-range agent, who usually enters a country at some time prior to an outbreak of hostilities, is similar to the fixed espionage agent, while the short-range saboteur ordinarily operates during wartime within an area of military operations. The means of entry into a country or a particular installation employed by a saboteur are similar to those used by espionage agents. To be remembered is the fact that anyone can be a saboteur, of any age, from any social group, or any profession or occupation. While the activities of the trained saboteur may conform to a pattern, those of the independent saboteur seldom do. This latter type may be unexpectedly motivated by diverse causes: he may commit sabotage in an effort to embarrass or discredit a fellowworker, and by blaming his act on another seek to gain personal recognition, advancement, or reward.

Methods and Targets of Sabotage

The method employed by a saboteur will depend upon the nature and construction of the assigned target, its vulnerability, security measures in force in the area, the effect desired, the time available, and the material necessary to cause the planned damage. While the range of possible methods is great, some are more commonly used because of their simplicity and convenience and may be divided into four groups: incendiary, explosive, mechanical, and biological. The common characteristic of each is damage or destruction to life or property, except in the case of the latter which may have more indirect results. These methods may have a primary phase, which involves the actual act, such as arson or bombing, and a secondary phase, consisting of acts which increase the effectiveness of the primary, such as disconnecting fire alarms and immobilizing fire-fighting equipment.

One of the most effective methods of sabotage is the use of fire because of complete destruction, concealment of evidence, and availability of means. Taking advantage of ordinary fire hazards, such as

the improper stowage of combustibles or faulty electric wiring, the saboteur can achieve his objective with a minimum risk of detection and a maximum degree of disguise. For example, during World War II, a German sabotage group in Great Britain, directed by an electrical engineer, made use of apparent accidents to damage various electrical installations. The close relationship between arson and sabotage, which differ only in objectives, often make it unnecessary for the saboteur to camouflage his incendiarism.

Rapid spread and complete destruction is most accurately achieved when the saboteur personally ignites combustible materials, known as accelerants. Should he require time for escape or a better alibi, he may make use of a variety of delay mechanisms which are either improvised or manufactured. These mechanisms are usually chemical, electrical, or mechanical. A very simple device is a lighted cigarette and a match folder which provides a delay of about 15 to 18 minutes. Typical chemical mechanisms include pencil-like incendiaries and sabotage bombs which have as their components a delay device, an initiator, and a main charge. Electrical and mechanical mechanisms are frequently used in combination with chemicals and adapt for their purposes ordinary alarm clocks, mouse traps, doorbells, and telephones.

The use of explosives poses a number of problems and requirements: storage, introduction into the target area, technical skill in preparation, the difficulties of making the explosion seem accidental, and the possibilities of public indignation resulting in intensive investigation and increased security measures. However, explosives become an acceptable method under certain circumstances: when the target is such that a cutting or shattering force is necessary for its destruction, when destruction must be immediate and total, and when no other method will accomplish the objective. Explosives are particularly effective in destroying cast iron forgings, reinforced concrete and stone structures.

Usual explosive devices are bombs which may or may not be disguised. If disguised or concealed they may be set to explode at a predetermined time or so arranged as to explode by means of a trigger device activated by movement. The common ex-

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plosive materials used include black powder, smokeless powder, nitroglycerin, and TNT.

Mechanical sabotage is by far the easiest method to employ as well as one of the most difficult to detect. Its most logical targets are industry and transport, although military equipment has some vulnerabilities. This method is accomplished by breakage, the use of abrasives, acts of omission, substitutions, and contamination. A wrench, hammer, or other similar tool can easily destroy delicate instruments, gears, pumps, and other vital moving parts of machinery. Abrasives, placed in lubricants and fuels, will cause excessive wear and eventual breakdown of machines, engines, and generators. Mere neglect to perform some important, though simple, function, such as lubrication of equipment or turning on oil feed lines, will accomplish a saboteur's purpose. The substitution of faulty or foreign materials can materially affect an industrial plant and the alteration of blueprints can have equally destructive results. The contamination of fuels and lubricants is a procedure similar to those already mentioned.

There are many advantages of mechanical sabotage: little equipment or training is needed; detection is exceedingly difficult; and it can often be continued in the same area over a considerable period of time. For example, industrial production may be retarded to a low level but not completely stopped. During World War I it was 4 years before damage to the propeller shaft of an American merchant ship was discovered. In World War II, German agents had as one of their targets the transport system of the Allied armies moving through northern Italy and across France; their purpose was to slow down progress, to distract transport personnel, and to detract investigative agencies from more important tasks.

Biological sabotage is aimed at the home front, especially the labor force and seeks to cause sickness and absenteeism by introducing various toxins in sources of food and water.

Three major categories of sabotage targets are transportation, industries, and natural resources. The importance of transportation to industries and to the movement of materials makes it a primary target, with railroads, water shipping, and air transport having priority in that order. Industrial targets might specifically be, in order of im-

portance: power plants, assembly lines, raw materials, individual machines, lubricants, and fuels. The category of natural resources includes mines, farm produce, forests, and waterways, together with dams, breakwaters, flood-control systems, and reservoirs. The disruption of the telecommunications facilities of a nation such as the United States, with its complex telephone, telegraph, cable, and radio networks, could quickly dislocate its economic, political, and social structure; while damage to public utilities, warehouses and supply depots, and military installations could have serious consequences. A successful attack in any of these categories might have a progressively serious effect on the labor force which is always a vital target.

In a theater of operations, and particularly in an area formerly held by an enemy, sabotage may be especially advantageous against such targets as ships, port and dock installations, railroad junctions, bridges, tunnels, switches, airports, radio transmitters, landing-control equipment, important public buildings, motor pools, and ammunition, fuel and food dumps. The list of targets of special naval interest is extensive and includes: naval factories of all types, shipyards, piers and terminals, drydocks, loading and unloading equipment, depots and storage areas, central power stations, transmission lines, transformers, waterworks, transportation facilities, communications, ships of all types, and labor force.

The organized, large-scale sabotage group, carefully coordinated with other weapons and measures, constitutes a danger and threat in both wartime and peacetime. In many instances these groups are an integral part of foreign intelligence services; in fact, some countries have maintained sabotage units for many years. In World War I, for example, the Germans operated an initially successful sabotage campaign against Allied shipping; in the United States this campaign was directed by Franz von Rintelin who has described his activities in an interesting book, *The Dark Invader*. Prior to World War II, the Nazis initiated sabotage operations in France in an effort to impair her industrial production and so to aid the activities of subversive groups. There are indications that these operations were successful at least in part.

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Nonphysical sabotage, which relates to the systematic undermining of morale and public opinion and makes use of false propaganda and insidious rumor, is a form of subversion which is a major type of foreign directed activity of concern to counterintelligence.

SUBVERSION

The dictionary definition of the word "subvert" is "to overturn, overthrow, ruin utterly; to undermine the morals, allegiance or faith of, corrupt." In its broadest sense, therefore, subversion includes both espionage and sabotage, and their concrete targets of information collection and physical destruction. In order to focus attention on the mental targets of subversion, this discussion will deal with activities relating to the corruption of the minds of men.

A comprehensive definition of subversion is difficult to phrase because of its intermingled abstract and concrete aspects. Most of its effects, however, are political, and it thus includes any activity carried on by an individual or group which seeks to alter the form of Government of the United States by unconstitutional means or which serves the interest of a foreign government in a way inimical to the United States. The education law and the civil service law of the State of New York is more specific and detailed as quoted in the *Regents' Rules on Subversive Activities*:

... a teacher or other employee who "willfully and deliberately advocates, advises or teaches the doctrine that the government of the United States or of any state or of any political subdivision thereof should be overthrown or overturned by force, violence or any unlawful means," or who participates in the preparation, publication or distribution of written or printed matter advocating such a doctrine or advising its adoption, or who "organizes or helps to organize or becomes a member of any society or group of persons" which teaches or advocates such a doctrine, or who utters "any treasonable or seditious act or acts," is engaging in subversive activity ...

Legally, subversion is the committing of a willful act inimical to the interests of the United States. From the intelligence point of view, subversion is also a specialized method of political warfare

which demands the most astute and painstaking counteraction.

The term subversion, often popularly described as fifth column activity, is applied to a variety of manifestations, from an expressed attitude to a series of acts or statements which reveal disloyalty and endanger the constitutional government of the United States. Subversion, therefore, is a matter of degree and the naval officer must be carefully trained to recognize it in its many aspects. Some characteristics of subversion include its conspiratorial nature, the secrecy surrounding its efforts, and the devious, inconsistent, and sometimes seemingly conflicting means of approaching and attaining its eventual objectives. Perhaps the most serious problem is the resemblance of some phases of subversion to legitimate activities of a democratic citizenry, and differentiation must be made between the loyal American who exercises his right of criticism and the enemy who conceals his subversive activity by making use of the same right. The solution of this problem constitutes a heavy responsibility for counterintelligence and security agencies which have sometimes found themselves dealing with cases involving inference and personal judgment. For example, when a case against an individual lies within the area of ideas, even expert analyses of that case may vary in their conclusions as to what the individual is and what he actually represents.

Shortly after World War I this problem was faced by Justices Holmes and Brandeis of the Supreme Court at which time Holmes brought forth the doctrine, as a standard, of "clear and present danger." In the case of *Schenck v. United States*, he said: "The question in every case is whether the words used are used in such circumstances and are of such a nature as to create a clear and present danger that they will bring about the substantive evils that Congress has a right to prevent. It is a question of proximity and degree." Justice Brandeis, in the case *Whitney v. California*, further amplified this doctrine when he said: "No danger flowing from speech can be deemed clear and present, unless the incidence of the evil apprehended is so imminent that it may befall before there is an opportunity for full discussion. If there be time to expose through discussion the falsehood and fallacies, to avert the

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evil by the processes of education, the remedy to be applied is more speech, not enforced silence." Nathaniel Weyl, a former Communist Party member, commenting on this statement in his book, *The Battle Against Disloyalty*, makes the point that "the purpose of the Communist movement was to deprive the people of the United States of any possibility of a 'free and open encounter' between truth and falsehood" and "is not a battle of ideas in the arena of honest discourse. The purpose is not to convince the majority, nor is there any willingness to abide by the majority's verdict."

This fundamental problem is summarized by Philip Selznick in *The Organizational Weapon: A Study of Bolshevik Strategy and Tactics*, published by the Rand Corporation:

The problem of subversion has two aspects which are often confused. On the one hand, a group is considered subversive when it seeks to overthrow established authority by forcible means. It is here that the doctrine of "clear and present danger" most readily applies, the assumption being that governments ought to punish acts and not thoughts, and that measures of restraint ought to be consistent with the seriousness of the acts committed. However, the problem is complicated when, as in the case of communism, subversion refers not only to a revolutionary program, but also to the manipulation of social institutions for alien ends, this manipulation being conducted covertly in the name of the institution's own values.

Mr. Selznick goes on to say that confusion in identifying subversion can and does arise from the fact that new social forces develop from time to time in a community, which may be considered subversive because their motives and objectives are not generally understood or appreciated. The criterion in such instances will be the limits of the objectives sought and their realization within the established and regulated processes of constitutional government.

A study and understanding of communism can lead only to the conclusion that it is subversive, because its goal is unlimited power and its methods utterly disregard and directly oppose customary constitutional processes and restraints. Power is sought through the insurrectionary activities of a pivotally placed minority assisted by a foreign power.

Aspects of Subversion

Disaffection, a first step toward subversion, is a state of mind in which there is a basic lack of loyalty or regard for any constitutional form of government and particularly for the Government and Constitution of the United States. It may be indicated by disloyal comments, not necessarily designed to influence others, or by sympathetic association with persons or groups who have positive subversive tendencies. In and of itself, as a state of mind, it constitutes no criminal offense since no act has been committed. It is particularly important to distinguish between the discontented and the disaffected, as well as between disaffection and subversion. The step between disaffection and subversion is taken when the act is committed. Disaffection is of direct interest to counterintelligence because of its potential danger and easy conversion to subversive purposes. A foreign national residing within the limits of the United States cannot be guilty of disaffection, since he owes no loyalty to the United States.

Sedition is described as acts, or words written or spoken, which tend to incite the citizens of a country to revolt or rebel against constituted authority. While sedition involves questions of constitutional law, the Congress has the implied right to protect the Federal Government against injury and the authority to punish incitements to violate or interfere with the execution of Federal laws. Sedition, therefore, involves any advice urging illegal resistance to the law, any attempt to change by illegal means the existing form of government, and any illegal interference with the execution of its policies. The key words in the various sedition laws are: Insubordination, disloyalty, mutiny, refusal to duty, injury to the United States, force, and violence. In 1940, the sedition laws were broadened to include "any persons who knowingly or wilfully advocate, abet, seek, advise the necessity, desirability, or propriety of overthrowing or destroying any government in the United States by force or violence." More recent laws, still under consideration, tend to be even more explicit.

Treason, the most serious offense that can be committed against the Government of the United

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States, is specifically defined in the Constitution as follows: "Treason against the United States shall consist only in levying war against them, or in adhering to their enemies, giving them aid and comfort. No person shall be convicted of treason, unless on the testimony of two witnesses to the same overt act, or on confession in open court." The basic difference between treason and sedition is that treason means the committing of an overt physical act, whereas in a case of sedition, words alone can constitute the offense. Treason is a breach of allegiance. "Levying war" has been interpreted by the courts to include furnishing to an enemy arms, troops, supplies, information, or means of transportation. "Adhering to their enemies" is an offense which includes the transmission of intelligence of military value to an enemy, all acts which in any way tend to obstruct or weaken the military operations of the United States, and the inciting of others to aid an enemy. It should be apparent that many legalities can arise in connection with cases of treason and sedition.

Nathaniel Weyl, in the book cited above, states that "the United States has been extraordinarily tolerant of both sedition and disloyalty. No modern state has ever defined the crime of treason so narrowly. No nation has ever surrounded the man accused of betraying his country with such a formidable barrier of constitutional protection or been so reluctant to punish conspiracies directed at its very existence." Since World War II, however, more vigorous measures have been taken, not only against the underground forces of communism but also against the American Communist Party which has waged an unceasing campaign for revolution. One of the most important was the indictment in 1948 of 12 men charged with conspiracy to organize the Communist Party of the United States as an association of people "who teach and advocate the overthrow and destruction of the Government of the United States by force and violence." This organization is characterized by deceit, conspiratorial activity, secrecy, virulence and hatred, subservience to instructions from the Soviet Union, and a fanaticism on the part of its members which is a way of life engulfing their entire personalities.

Methods of Subversion

A study of the American Communist Party and its activities will provide a detailed illustration of subversion and its methods. As a part of the party discipline each member is carefully instructed in the basic principles of organization, propaganda, and agitation through the doctrinal teachings of Marx, Engels, Lenin, and Stalin by which the party directs the struggles of the working class in gaining victories while avoiding unnecessary sacrifices. These teachings also show the party the best methods of overthrowing capitalism, which will lead to the establishment of a Socialist Soviet Republic in the United States. A clue to the advantages of subversion from the Communist point of view are the words, "unnecessary sacrifices;" at the same time its principal methods, or techniques, are identified by the terms, organization, propaganda, and agitation, which will be discussed in turn.

Organizational Methods

In order to understand the organizational method of subversion it is necessary first to appreciate the power generated not only by one organized group but also by an entire organized political community. The recognized constitutional order of a democratic state imposes positive responsibilities on group or political party power and enforces regulations governing the use of or accession to that power. The regulations of the constitutional system are continually being extended into new areas where group power is being developed and won. For example, political parties, pressure groups, unions, and various other agencies attaining power adapt themselves to the constitutional order and so contribute to the continued stability of the state. For this reason subversion is not involved.

Communist political doctrine, fully recognizing the potential of group power, seeks to exploit it in all social institutions regardless of whether or not they are normally political in nature, and to achieve the consolidation of total group power by one ruling group. Hiding behind the customary and accepted rules of constitutional procedure, the Communists achieve power by the manipulation of minority units, thus actually circumventing these rules. Their search for power does not stop

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short of total absolute control. For these reasons, communistic organizational methods are subversive and can be characterized as total subversion. The implications of these methods in their totality are indeed staggering and represent a challenge to democratic society that is perhaps unparalleled.

The importance of ideology to communism is well known; the almost equal importance of organizational control was emphasized by Lenin when he said: "The proletariat has no other weapon in the fight for power except organization . . . the proletariat can become and inevitably will become a dominant force only because its intellectual unity created by the principles of Marxism is fortified by the material unity of organization which welds millions of toilers into an army of the working class." For the Communists, therefore, ideology is only a beginning; the ultimate goal is the consolidation of total power in a select group within organizations which can force a final and irrevocable decision on society.

One method is the creation of acknowledged political organizations, such as the American Communist Party, legally constituted and openly devoted to the expansion of membership and the enlistment of popular support for political control through recognized constitutional procedures. A second method is the development of "front organizations" in any area of social activity, political, professional, cultural, or economic. Communist-controlled from their inception, these organizations have innocent-appearing and seemingly commendable objectives designed to appeal to specific groups and individuals who may be dominated and exploited for subversive purposes. By such means, propaganda is disseminated through apparently acceptable channels, information is obtained for further organizational activities, such as names and addresses, and subversive groups gain at least partial control over those which are nonsubversive.

Front organizations have the mutual characteristics of common origin, idealistic sounding title, rigid conformity to the Communist "line," and deception; they are either mass, membership, or paper organizations, and solicit and make use of the names of prominent persons. The same party members may belong to several front organizations. In recent years, hundreds of such organ-

izations have sprung up, but have quickly ceased to exist when exposed. In some of his writings, Stalin has stressed the importance of these groups, describing them as "transmission belts" and quoting Lenin to support his point of view:

The dictatorship (of the proletariat) cannot be effectively realized without "belts" to transmit power from the vanguard (the Communist Party) to the mass of the advanced class, and from this to the mass of those who labor.

The membership ordinarily includes four categories of individuals: (1) Admitted Communist Party members; (2) Party members whose true status is concealed; (3) Consistent accepters of the party discipline although they are not party members; (4) Those attracted by the announced objectives of the group, the prominence of its sponsors, and general sociability. The means by which these organizations are established and controlled have been described by a former high official of the American Communist Party in his testimony before the Special Committee on Un-American Activities, House of Representatives:

A front organization is organized by the Communist Party in the following fashion: First, a number of sympathizers who are close to the party and whom the party knows can be depended upon to carry out party orders, are gotten together and formed into a nucleus which issues a call for the organization of a particular front organization which the party wants to establish. And generally after that is done a program is drawn up by the party, which this provisional committee adopts. Then, on the basis of this provisional program, all kinds of individuals are canvassed to become sponsors of the organization, which is to be launched in the very near future. A provisional secretary is appointed before the organization is launched and in every instance in our day the secretary who was appointed was a member of the Communist Party . . . And as president of the organization we would put up some prominent public figure who was willing to accept the presidency . . . , generally making sure that, if that public figure was one who would not go along with the Communists, he was of such a type that he would be too busy to pay attention to the affairs of the organization . . .

On the committee that would be drawn together, a sufficient number of Communists and Communist Party sympathizers, who would

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carry out party orders, was included, and out of this number a small executive committee was organized . . . which carried on the affairs of the organization, so-called, and this small executive committee, with the secretary, really ran the organization . . . when manifestos or decisions are made, those campaigns are ordered by the Communist Party.

The purpose of all of these new organizations is, of course, to produce new sources of political power at the same time subtracting power from established institutions. However, new effective groupings may not be possible or desirable, so that a third and particularly insidious method is adopted, that of capturing established institutions, completely or in part. While the framework and facade are retained, the body and working mechanism are replaced or reoriented so that these organizations have new, though concealed, loyalties and purposes and are no longer a normal part of the constitutional order but instrumentalities prepared for revolution. In connection with this method two points should be noted: first, vital nerve centers and key institutions are primary targets so that controlling power may be achieved with a minimum of mass support; and second, within a target group the replacement of top leadership is followed by a remolding of the entire control system which will ensure uniformity of opinion, complete conformity, and the greatest possible favorable influence within the broad base of the membership. Even if that favorable influence is not gained, the organizational mechanism will maintain control, so that here again minimum support makes maximum power possible. For example, in a Communist-controlled union, headquarters officials, organizers, and shop stewards all become part of an integrated apparatus leaving the base membership with no formalized, and frequently no effective, means of expression. The total impact of this organizational method was vividly and startlingly demonstrated in the case of Czechoslovakia where the Communists seized power in February 1948. As noted in *The Organizational Weapon*:

It was not an insurrection, involving attacks upon a ruling group, but a seizure of total power by those who already held dominant influence in the government. It was a revolution nonetheless, for it resulted in a fundamental shift in the locus of sovereignty

from constitutionally restrained parliamentarism to a totalitarian state. What was overturned in Prague was an *institutional system*, not a regime.

Striving to seize the power potential of any attractive formalized group enterprise, the Communists take advantage of inherent weaknesses which can be readily manipulated to their own purposes. Within any organization a small informal group with special cohesive interests can become a dominating force. Once an official position has been captured, it can be used to influence decisions and to direct the distribution of internal and external power. Through the informal group and the official position, steps can be taken to reorganize the formal group, ostensibly to permit greater internal efficiency or better cooperation with external groups, but actually to consolidate the influence and controls of the informal group. In many, if not most organizations, the membership is loosely joined together and mobilized for concentrated action only on special occasions and for particular short-term reasons or goals. The ability of the informal group to integrate the membership closely and continuously activate it provides a new source of power which can be directed in many ways. Most organizations also have limited objectives within their particular fields of interest. However, once internal strength is concentrated, the limited objectives can be expanded as desired. It is apparent that ideology becomes an important means for integrating mass membership and in developing organizational power.

In selecting an established institution for capture, the Communists consider most carefully its relative importance in the social structure, the breadth of its base, the composition of its membership, its acceptability within the community, and the potential of its power. Their ingenuity of analysis leads them into unexpected areas and their systematic procedures accomplish amazing results. Infiltration and penetration are followed by mass political education or indoctrination. Emphasis is placed on the importance of organized and combined positive action, an aggressive hatred against so-called "evil forces" such as capitalism, intense loyalty, and continuous self-sacrifice. The membership must acquire a sense

of mission and dedication, their lives must be centered around the group, and they must be personally committed to the principle of mutual support.

There are many types of institutions selected for Communist capture. Typical are the youth groups which have been primary targets all over the world because they are often effective breeding grounds for social strife and unrest and for the recruitment of new communist members. Many of the leaders in the American Communist Party began their work in their youth and it has been estimated by the FBI that the average age at which men and women join the party or its youth branch is 22.2 years, with ages ranging from 14 to 35. The approach to young people at the beginning is often indirect and may be only a matter of parties, dances, and socials; once recruited, however, the individual becomes a virtual prisoner. Of interest is the fact that many of these youthful recruits have a high native intelligence and much natural ability.

In addition to labor unions which have already been mentioned, minority groups are excellent areas for Communist exploitation. Differences in language or race, suspicions, and misunderstandings are magnified into open discontent and disaffection which are subverted as sources of power. For example, the Communists have endeavored to appear as champions of the American Negro, promising much, and concealing their true objectives under high-sounding words. In addition, they have attempted to undermine worthy negro organizations. Refugee groups, often discontented, have similar potentialities. The Armed Forces and principal veterans' organizations are composite social groups of great importance. According to the FBI, Communist policy in respect to the Armed Forces in the postwar period has been to discourage the enlistment of non-Communist youths; for party members to create confusion and dissension if drafted; for members not subject to draft to obtain work in defense plants in order to promote dissension. The overall purpose is to reduce the effectiveness of the Armed Forces. In the case of the veterans, some of their objectives have been espoused by the Communists in an effort to win support. The

control of civil police is a means of preventing action against subversive enterprise.

For their purposes the Communists do not find it essential to establish complete control over all organizations, for in order to influence policy decisions infiltration is often sufficient. The organizational method, therefore, includes gaining access to non-Communist groups in order to guide unsuspecting loyal citizens into supporting policies of the party. All types of groups, from women's clubs to government agencies, are potential targets. Peace petitions support the Communist world strategy, and even the control of routine decisions at lower levels in government can have important cumulative results.

Leadership

It is a fundamental Communist principle that the durability of a movement depends upon stable leadership to insure continuity. An elite group of directors, called the vanguard, is therefore essential to maneuver the masses into the desired position. The entire party structure is based on strict administrative accountability and a clear-cut chain of command. The highest loyalty and obedience are demanded from every party member and those who deviate are summarily subjected to harsh treatment.

The development of adamant leaders begins with a psychological process of re-shaping personality, which from the point of view of American values includes the destruction of all independence of judgment and the erasing of environmental and educational influences. Then follows a gradual remolding into the professional revolutionist, a person who is totally and pitifully dependent on the party, completely obedient to instructions, zealously fanatic, and merciless to those who falter or fail. This complete transformation of the inner man is subversion of the most heartless type. According to Nathaniel Weyl, a number of clandestine party schools have this as their mission, with students carefully selected for their qualities of intelligence, loyalty, and demonstrated courage. Closely guarded, these students take assumed names and are not permitted to leave the school or to communicate with anyone outside its walls during their training period of from 6 to 10 weeks. The new leader emerges in the mold of the party,

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warped by revolutionary desires, filled with hate for any society which opposes the goals he had been taught to attain, and ignorant of all values which give life meaning for normal people. Intolerant of any differences of opinion, he will fight by the foulest means to attain his objectives; communism is the only truth he knows.

Propaganda

Although the training of active or potential party members is not intended to be as complete or intensive as that of party leaders, they too must be properly oriented and indoctrinated. This is accomplished largely by propaganda, which from the Communist point of view is indoctrination through the dissemination of ideas to small groups of society. Books, pamphlets, magazines, newspapers, bulletins, letters and postcards, lectures, movies, radio broadcasts and various kinds of group entertainment are effective media for presenting doctrine and spreading rumors.

The insidiousness of propaganda for subversion makes it extremely difficult to identify and evaluate; its specific purposes may be completely concealed at the outset. Seldom will it encourage open revolt, but will have an emotional rather than an intellectual appeal aimed at lowering morale and stimulating discontent. Sometimes it will be directed solely toward effecting certain organizational changes so that, of itself, it has no apparent propaganda characteristics. Failure to recognize this type of propaganda obviously leads to errors in correctly evaluating Communist activity. In many respects, Communist propaganda in America appears to have concentrated on middle class groups because their vulnerability tends to be more psychological than organizational. Since the organizations of the middle class are more diverse and less centralized than those of the laboring class, organizational subversion methods cannot have as great a power impact; the middle class, however, is often more receptive to ideological exploitation.

Louis Budenz in his revealing book, *Men Without Faces*, emphasizes the effectiveness of Communist propaganda in molding American thought, and comments "we are likely to forget that it is the Communists' hidden influence on American opinion that has been most devastating." He

points out that one purpose of this attack on men's minds has been to convince Americans that the Soviet fifth column does not really exist and that revelations of Soviet espionage activity are nothing but the result of hysteria. He adds that the Communists "have done a fairly adequate job of making America ashamed of defending its own freedoms." The lengthy trial of the 12 Communist Party leaders in 1949-50 afforded an opportunity to attack American courts in the person of Judge Harold R. Medina who was compared to Hitler, accused of pro-Fascist tendencies and prejudices, described as a wealthy corporation lawyer, and labelled as a discriminator against Jews and Negroes. The purpose of this vicious campaign may have been to implant the heinous suggestion that the American legal system is no more than a sham and a mere pretence of real justice for all.

In *The Red Decade*, Eugene Lyons sums up one pattern of Communist propaganda activities in his discussion of the American League for Peace and Democracy:

In eight years of existence under changing names this League probably reached more Americans with its propaganda than any other foreign agency in the whole history of our country. By a generous definition of the "democracy" it ostensibly defended, the organization worked busily with all other Communist stooge groups. This process of mutual help expanded the clamor and impressiveness of the incredible revolution immensely—a sort of multiple-mirror trick. The League published a monthly magazine, distributed millions of pieces of literature, staged scores of parades and mass meetings, lobbied for legislation, sent its speakers into hundreds of clubs and churches, promoted plays and motion pictures in line with its policies, and developed hundreds of contact points in our Federal and local government.

A further pattern of Communist activity is a vigorous counterpropaganda effort designed to nullify or reduce the effects of informational and educational programs conducted by legally constituted American groups. Smear campaigns, as well as infiltrated organizations or front groups which protest and decry governmental and private information programs, are commonly used.

Of particular interest is the fact that the Communists not only employ propaganda for the purposes of furthering their ideological program, but

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also attempt to maximize the possibilities of its favorable results by gaining some control of the group at which it is directed. In this manner, its acceptance may be facilitated. This strategy indicates the very close relationships of the organizational and propaganda methods of subversion.

Agitation

Certain variations in the propaganda method of subversion as applied to different social groups justify the identification of a third method, namely agitation. In fact Lenin made such a distinction, considering propaganda as an output of many ideas to small groups and agitation as the broadcasting of a few ideas, or only one, to a mass of people. This distinction coincides with that made between the vanguard which is to be persuaded and the masses which are to be led.

Agitation has more of an action connotation than does propaganda in that its appeal to large groups is in the nature of an immediate solution of current problems and the active improvement of unfavorable situations which may have been magnified into impending crises. One objective of Communist agitation is the fomenting of strikes and disorder. Before going further, however, it should be pointed out that there is grave difficulty in distinguishing between strikes which are Communist-inspired and those which arise out of the orderly legal processes followed by responsible labor unions. To brand every labor strike as Communist-led is as dangerous to the welfare of the democratic state as to scoff at the possibilities that they are communist inspired. It is for this reason, among others, that the Communists find the area of labor relations such a fertile field for activity, and concentrate so much energy on strike tactics. Whether or not a strike results in specific benefits to the workers means little or nothing to the Communist leaders. Of far greater importance is the opportunity provided to test Communist strength and control over the groups concerned, to determine the weaknesses of their opposition, to channel the loyalties of the strikers toward communist leadership, and to give them experience and training in mass action. Mass picketing which will include all the workers, their wives, children, and sympathizers is especially sought as a method of magnifying the impact of

a strike. The Communists' own strike objective, of course, is to solidify their controls and create a total political power that can be decisive in the larger struggle. They obtain a unique advantage whenever they can force the legally constituted government into the position of being a strike-breaker. Lenin has described the ultimate use of the mass strike in words of significant import:

Prior to January . . . 1905, the revolutionary party of Russia consisted of a small handful of people, and the reformists of those days . . . derisively called us a "sect" . . . Within a few months, however, the picture completely changed. The hundreds of revolutionary Social-Democrats "suddenly" grew into thousands; the thousands became leaders of between two and three million proletarians . . . The principal means by which this transformation was brought about was the mass strike. The peculiar feature of the Russian revolution is that in its social content it was a bourgeois-democratic revolution, but in its methods of struggle it was a proletarian revolution. It was a bourgeois-democratic revolution since the aim toward which it strove directly and which it could reach directly with the aid of its own forces was a democratic republic, an eight-hour day and the confiscation of the immense estates of nobility . . . At the same time the Russian revolution was also a proletarian revolution, not only in the sense that the proletariat was the leading force, the vanguard of the movement, but also in the sense that the specifically proletarian means of struggle—namely the strike—was the principal instrument employed for rousing the masses and the most characteristic phenomenon in the wave-like rise of decisive events.

COUNTERESPIONAGE

A highly specialized activity to be undertaken *only* by trained and skilled personnel, counter-espionage is directed against enemy spies and secret agents in order to forestall, neutralize, or confuse their activities. Since a primary purpose is to apprehend spies and agents before they have accomplished their mission, counterespionage must establish an advance warning system, block access to potential targets, and render ineffective all efforts to locate, collect, and communicate information. Counterespionage activity takes place both in the United States and abroad; its intensity is proportionate to the tensions of the existing

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international situation. In time of peace particular problems are involved in applying its techniques in such a way that they will not unjustifiably restrain the rights and freedom of the individual citizen.

The disclosure of foreign espionage services is a most difficult and exacting assignment, first, because customary police procedures and routine criminal detection methods are inappropriate and generally futile, and second, because spies and agents usually are persons with outstanding native abilities, unusual talents, and intensive training. Intensive study of known past activities must be made in an effort to determine any possible weaknesses. Most of the spies mentioned in chapter II were apprehended by skillful exploitation of their weaknesses. Undoubtedly, there have been many more who escaped detection, so it is much wiser to overestimate rather than underestimate the abilities of agents and spies and the extent of their activities. Prior to World War I the Germans were particularly effective in counterespionage, apprehending 411 spies as compared to the 20 caught by the British and some 40 by the French.

Personnel Attributes

Spies and agents must be opposed by counterespionage personnel who likewise possess special attributes. In his intriguing book, *Spy-Catcher*, Oreste Pinto, a former counterintelligence officer attached to Allied forces in Europe during World War II, prescribes 10 qualities, of which only the last 3 can be acquired by study and training. The first is an *exceptional memory*, not only the ability to remember events, faces, and places for indefinite periods of time, but also the capacity to interview and interrogate without written notes. *Infinite patience and attention to detail* may be the most important factors in the eventual apprehension of an agent whose cover story is air-tight except for one trivial fact. A facile *gift for languages* can be helpful in a variety of situations, from conversing with suspects to determine their true place of origin and to sense overtones or implications in their remarks to checking thoroughly on letters, documents, or any written matter in their belongings or on their person. An agent, for example, may pose as a Spanish exporter when

actually he is a Pole with an excellent knowledge of Spanish.

A working *knowledge of practical psychology* is indispensable in selecting the proper approach to different types of people, and in stimulating involuntary actions on their part to prearranged situations. The counterespionage operator must possess *courage* of a high moral order, which includes an unwavering belief in the fundamental rightness of his cause. He must be a *born actor* capable of maintaining the most rigid controls over his emotions and sentiments. This quality is associated with knowledge of practical psychology in that it comes into action after the counterespionage operator has assessed his opponent or suspect and determined the particular approach he will make. Successful acting also requires the quality of patience, because a part may have to be played for days on end and impatience or boredom will betray it. Skill in the mechanics of disguise must be matched by lifelike consistency in its portrayal.

It is evident that thus far the qualities of the counterespionage operator match those of the espionage agent, which gives pertinency to the saying "it takes a spy to catch a spy." There is a difference, however; the counterspy must possess these qualities to a higher degree and, in addition, the mental capacity to outwit his opponent. This involves a sense of logic which is associated with a *gift of detection*. The explanations of innocent suspects are usually more confused, incoherent, and illogical than those of actual agents, and an innocent man may occasionally have much more difficulty in accounting for his presence at a particular time and place than the agent whose cover story has been carefully prepared. For this reason, counterespionage personnel must be able to analyze available evidence logically, testing each item, understanding the relationships of cause and effect and distinguishing clearly between the true and the false. Something of a sixth sense is necessary to stimulate a further search for an obscure hidden bit of information which may provide the only clue. An unexplainable sense of impending danger may also come from this mental attribute.

These inborn qualities can be fortified and strengthened by others that are acquired, the first of which, related to the capacity for detection, is

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practical *knowledge of the techniques* of espionage. In the course of its long and tortuous history, espionage has developed and made common use of a variety of techniques, including methods of secret writing and of communicating information. In addition, some intelligence services, having adopted particular methods, continue to use them as a matter of routine and with little imagination, one notable example being the Germans who seemed incapable of change even after their methods had been discovered. During World War II, they made use of microcameras resembling pocket fountain pens to photograph documents and produce negatives which could be transmitted under a postage stamp. Even after this clever device was discovered, the Germans continued to use it for mail whose addresses were suspect. Knowledge of various techniques, therefore, can be of tremendous assistance in unmasking espionage agents. A precise *knowledge of geography*, with an emphasis on cities and towns, serves as a means of substantiating or refuting cover stories and of facilitating movement in particular areas of activity. To be of the greatest value, this knowledge must be specific, as to streets, important buildings, restaurants, hotels, and peculiar local characteristics. Finally, a usable *knowledge of international law* is helpful in securing certain individual rights and privileges and in knowing when these rights are improperly claimed.

Apprehension of Espionage Agents

Three ways to prevent agents and spies from accomplishing their mission are: (1) to apprehend them at the point of entry into the target country, combat zone, or specific area of interest; (2) to disclose their particular cover or disguise; and (3) to intercept their communications. The last is the most critical stage of their activities.

While security controls will be considered more fully in a later section, it is appropriate here to mention that in peacetime the United States is protected against illegal entry by the Border Patrol, Customs and Immigration authorities, and other civilian law enforcement agencies. Because of our extensive coastline, however, complete border control is impracticable. The Soviet Union, on the other hand, maintains a much more elaborate system which includes extensive border

patrols, barbed wire, electrified fences, and cleared, plowed strips of land. In a combat area during wartime, or in a military zone, additional travel controls are enforced, such as travel permits, check points, both stationary and moving, curfew hours, and questioning of civilians. Other controls in a military zone are provided by defining restricted areas to divert civilian traffic, publishing lists of occupations available only to certain individuals, and supervising civilian labor groups by military personnel. In wartime, the control of civilian signal communications and postal service is often productive.

For a number of reasons, the detection of an enemy agent should not always be followed immediately by taking him into custody. In the first place, he will quite probably be replaced by another agent whose identity is not known; or already detected by another intelligence agency, he may be under its surveillance or being supplied with false information. By leaving him at large under constant surveillance it may be possible to locate his associates and superiors, to determine the true nature of his mission, which will reveal the type of information required by an enemy, and to discover his methods of communication. He may also become a means for undermining the enemy espionage system. Even if the enemy quickly realizes that he is supplying them with false information, it will lead to distrust of other agents because of the same possibility in their case, thus creating general uncertainty.

Techniques and Procedures

Advance warning of attempts at espionage can be gained in a number of ways. One approach is to select probable targets of a foreign intelligence service and to determine points of greatest vulnerability. At these targets covert agents can be placed and/or a friendly informant network can be organized; in the case of the latter, it should be extended to include likely cover firms and enterprises as well as places of possible communications. In areas where espionage activities are suspected, curtailment of the customary channels of information may force the enemy agent to take greater risks, thus increasing possibilities of detection. Planned leakage of the location of sources of supposedly classified information may have similar

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results. The surveillance of suspects, identification requirements, traffic controls, and checks on communications methods, including signalling, may be productive. The penetration of foreign intelligence services is, of course, an ultimate in providing advance warning and positive clues to covert activities.

The disclosure of an enemy agent's cover can be a long, painstaking, and sometimes frustrating process. In addition to stringent security controls, appropriate techniques may include investigation and interrogation, name checks, and questionnaires. A sense of discrimination must be developed in order to avoid wasting time on investigations of amateur or unimportant agents. Foreign intelligence services often flood a target country with large numbers of relatively amateur agents in an attempt to overburden its counterespionage service and to divert attention from the professional, specialist agents. Routine background investigations and the screening of refugees and displaced persons must be conscientiously handled. A close inspection of bank accounts, financial transactions, and credit company records is often productive, and, while excellent cover methods have been perfected, as long as agents are paid or receive funds for their operations some traces can usually be found. Prompt reporting of all information and evidence is essential to successful investigation.

In interrogating espionage agents, it should be remembered that they are consummate actors, of whom it is dangerous to form snap judgments on first encounter. Articles found on the suspect's person or in his quarters often provide the basis for initial interrogation leading to disclosure. While lists of contacts are undoubtedly committed to memory, there is always the possibility that the agent will have in his possession an address on a scrap of paper, photographic equipment of some type, some means of secret writing, or radio or electronic equipment. The case of Alphons Eugene Timmermans during World War II is illustrative. A young Belgian merchant seaman, he had reached England by devious means and won the confidence of the Belgian government-in-exile with a most convincing cover story. As a result, he obtained and transmitted information to the Nazis regarding American troop movements

and locations of British ammunition dumps, airfields, and naval installations, among other items of interest. Eventual search of his person led to the discovery in his wallet of an envelope containing pyramidon powder, some orange sticks normally used in manicuring fingernails, and a piece of cotton—all essential for invisible writing. At his apartment was found a transportable radio which could be strapped around the waist as a belt.

Interception of an agent's communications may be achieved by monitoring the air waves for signals from wireless transmitters, mail inspection, checks on telephones and the telegraph, surveillance of possible couriers such as merchant seamen, raids and searches of suspected areas, and censorship. Many of these methods are, of course, limited to times of war.

The specific techniques of counterespionage, just as those of espionage, are closely guarded secrets. It is obvious that economy in this aspect of counterintelligence can be dangerous, if not fatal, considering the potential damage a single enemy agent can do and the relatively small additional effort and cost which might have defeated him.

COUNTERSABOTAGE

Initially at least the activities of counterespionage and countersabotage are similar, if not identical. The mission of the enemy agent may be the collection of information or the physical destruction of particular targets or both; and most frequently the collection of some information is necessarily preliminary to an act of sabotage. The trained saboteur, like the espionage agent, must gain entry to his target country and/or to a specific area for operations; he will employ suitable cover and disguise; and he has the responsibility of reporting back to his "home office" the results of his efforts. In the case of sabotage, however, the critical point is access to the specific target. While counterespionage, to all practical purposes, operates to gain advance warning of proposed sabotage, to prevent the obtaining of information for sabotage activities, and to discover potential saboteurs, countersabotage takes over those activities designed to impede or prevent the act, to reduce its total effectiveness, and through study, to strengthen preventive and security measures.

While acts of sabotage usually take place only in time of war or immediately prior to an outbreak of hostilities, their planning and preparation are undoubtedly begun in time of peace. In previous wars, the United States, fortunately, has been relatively free of any widespread sabotage problems; however, in the event of any future war, it is logical to assume that aggressive sabotage will be attempted on a broad scale in view of the ultimate decisive effects of American industrial production. Countersabotage, therefore, has assumed a greater significance than ever before, and it behooves the intelligence officer to be thoroughly familiar with its problems and procedures.

A first step in approaching the problem of sabotage is to determine the most likely and most vulnerable targets, such as transportation systems, industrial plants, and military installations. A second step is to select, by process of elimination, the points within particular installations or facilities which are most vulnerable to sabotage. For example, in an industrial plant, its source of electrical power and its assembly lines could be primary, ultimate targets; however, if they are well protected and relatively inaccessible, the most vulnerable secondary target, called the immediate target, might be the power lines from their source. The destruction of these lines might well neutralize the primary target, even though it is inaccessible. A third step is to survey the potential target area to insure that the necessary physical security measures have been established and are being maintained. Careful attention must be given to eliminating any natural hazards which may be present, such as those arising from the improper stowage of combustibles, chemicals, and explosives, defective mechanical equipment, and poor sanitary conditions, in short, general plant protection.

The prevention of sabotage requires security controls over information, communications, personnel, critical materials, and potential saboteurs operating from within or without. General security controls over information will be discussed in a later section. Since the techniques for detecting and apprehending saboteurs and espionage agents are similar, emphasis in this section will be on physical security measures, the application of counterintelligence techniques to cases of

sabotage, and procedures to limit damage from sabotage.

Physical Security Controls and Measures

The most common preventive measures for physical security are physical equipment, guards, identification systems, and the establishment of restricted areas. Physical equipment includes fencing, barbed wire, walls, alarm systems, special electronic devices, and other mechanical means. Protective screening should be placed over all vulnerable windows, ventilators, drains, or other small openings; and appropriate barriers should be constructed to prevent access from adjacent buildings, overpasses, and similarly located structures. Entrances should be kept at a minimum and locked or guarded at all times. Within a target area special protection should be given to machines and equipment vital to total operation and difficult to replace, such as switch boards, precision tools, transformers, regulator stations, and power terminals. Exterior lighting systems should be so designed that movement of personnel can be readily observed.

In studying problems of physical security and the use of preventive equipment, it should be remembered that certain factors favor the accomplishment of sabotage. No unprotected fence or barrier will completely prohibit entry to an area. Under cover of darkness, a saboteur who is thoroughly familiar with his target area can move with ease, unseen and unheard, to within reach of almost any guard. Finally, with the independent choice of time and place, the saboteur has a great advantage in the element of surprise. On the other hand, he can be impeded, if not stopped, by such factors as adequate lighting, delays created by physical barriers, noise inadvertently made by him, and his own errors arising out of the emotional excitement of the moment.

Guards are a supplement to physical equipment and the means of enforcing general security measures. They should be well-trained, efficient, vigorous, well-informed, and self-reliant. Patrols at irregular intervals, close attention to most vulnerable points, and alert checking on any disturbances within assigned areas of responsibility are matters of efficient organization and training. Guards should not permit themselves to be drawn

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away from their own areas or posts by commotion at another, and under no circumstances are individuals without proper credentials to be admitted. Materials in transit and receiving and shipping platforms must be continually guarded. The establishment of special restrictions for vital areas within an installation strengthens security controls for such vulnerable targets as power plants, experimental laboratories, transformer rooms, and arms and ammunition storage. Adequate fire protection, including both equipment and trained personnel, is essential to physical security.

Particularly in time of war, concealment and camouflage are helpful measures. In some instances, vital installations are constructed underground to minimize the possibilities of detection; in others, camouflage is used to make important targets look like something else, or nothing at all. Various illusions are created by means of nets, paint, and the planting of trees and bushes on roofs of buildings.

Techniques and Procedures

Countersabotage personnel, like all others engaged in the intelligence activity, make use of comprehensive files regarding incidents of sabotage, including the types of targets attacked, the equipment and materials used, the methods of attack, and the particular individuals apprehended. These files can be supplemented by information from fire reports of insurance companies, fire departments, underwriters' laboratories, and special police department files. One of the first items of interest is to determine whether or not the sabotage act is an isolated case, perpetrated by the independent saboteur, or part of an organized effort directed from foreign sources. Spot reports submitted to intelligence headquarters are of material assistance for evaluative purposes, and up-to-date files can provide important and significant clues.

Informants among civilian and military personnel and friendly associations with plant supervisors and security guards can do much to strengthen all security measures. In apprehending saboteurs common use is made of interrogation and investigation.

The investigation of sabotage will often uncover the motive behind it. For example, a fire in a

blueprint room may be designed to tie up production or to conceal the theft of certain prints. If the prints concern new aircraft design and production, the motive assumes greater meaning. Although the methods and the means are often readily determined, the detection of the individual is much more difficult. There is a close relationship between the degree of efficiency of the security measures in force at the time and the facility with which an investigation can be made. In conducting an investigation of sabotage, a common procedure is to pursue answers to the questions, What? When? How? Where? Why? and Who?

While each method of sabotage requires some specialized knowledge on the part of the investigator, there are certain general procedures applicable to each. In order to establish a case of incendiary sabotage, it is necessary to know: first, the exact point of origin of the fire; second, the exact time the fire started; and third, the criminal intent to destroy. Arrival, if possible, at the scene while the fire is still burning will permit observation of its extent, its intensity, characteristics of smoke, and other features which may establish point of origin and the possible use of accelerants. Maliciously damaged fire equipment and alarm systems, propped open door and windows, the outbreak of fire simultaneously at several points, odors, weather conditions, and individuals at the scene may provide clues. The pyromaniac, for example, will often remain in the immediate area as a matter of personal satisfaction and evidence varying degrees of emotional excitement. However, the detection of the perpetrator and the identification of the case as arson or sabotage may take a considerable period of time; it is seldom that the saboteur is caught on the spot.

In the event of explosive sabotage, two primary considerations are the preservation of evidence and the protection of life and equipment from further immediate damage. If a suspected bomb has been reported, or even if it has exploded, the area should be cleared of all personnel to eliminate damage from further possible explosions. In addition, all endangered utilities should be cut off, portable equipment should be moved, and guards posted around the area to prevent access by unwary persons and to deny exit to undetected and possibly suspect personnel. If an explosion

has occurred, an examination of the area should begin at the center of the explosion and move outward in enlarging circles in an effort to locate fragments or traces of devices which might have been used, such as pieces of pipe, portions of tin cans, wrappings of cloth, electricians' tape, rope, wire, fragments of burned fuse, pieces of detonators, batteries, or clock mechanism. Evidence of the type of explosive used may be drawn from the condition of objects at the scene, which in turn may establish the saboteur's source of supply. The placement of the explosive may indicate the experience of the saboteur as well as the materials and methods used. For these investigations the services of an experienced demolitions or explosives expert is *essential*, especially if an unexploded bomb is involved.

Technical assistance is also required in any investigation of mechanical sabotage because the tools used are usually common to the target area, there may be little physical evidence which can be studied, and the effects of its repetition on production over varying periods of time may not be readily apparent. Ascertaining the intent of a suspect may be most difficult if the damage is a result of mere failure to perform certain necessary duties.

The fact that damage and destruction may be caused by the independent saboteur who has no connection with a foreign service poses extremely difficult problems since such acts will be disorganized and unrelated. However, as a general rule, this type of sabotage is less effective and less dangerous to national security than that which is conducted by organized, large scale operating groups. Certain weaknesses of such groups combine to assist countersabotage personnel in their work and should be considered as important guides in tracking down saboteurs. Their operational program, for example, tends to fall into definite patterns. Previous success with particular methods will usually result in their repetition and reduces any initiative to utilize new methods. As in the case of espionage agents, communications between sabotage groups and their superiors are a continuing source of weakness, saboteurs may become double agents for personal motives, and accidental exposure may result from personal indiscretions.

Reduction of Sabotage and Its Effects

From the countersabotage point of view the apprehension and conviction of one saboteur is less important than the discovery and destruction of the organization of which he is a part. Since a study of sabotage incidents usually reveals weaknesses in security controls, an important objective is the strengthening of those controls and the development of new countermeasures to prevent the repetition of similar incidents. Those engaged in countersabotage activities should ask themselves these questions: At what point would a single act of sabotage most seriously affect the operations of this installation? If I had the mission, as a saboteur, to knock out this area what would I consider to be the points of greatest vulnerability? The explicit answers to these questions will go far toward the reduction of acts of sabotage and their total effectiveness.

COUNTERSUBVERSION

Difficult as are the problems of countering espionage and sabotage, they can be related to specific areas of information or to physical targets both of which are tangible and capable of identification and protection. In countering subversion, however, Intelligence is dealing with the intangible attempts to capture and manipulate men's minds, and there may be no obvious critical point at which subversion becomes a clear and present danger. Countersubversion, therefore, becomes a study of symptoms of subversive thought and action and a development of aggressive countermeasures on a broad front which must be prosecuted by many social, military, and political agencies whose activities are not always closely coordinated. The successful application of countermeasures depends in large part on the ability of countersubversion personnel to identify accurately preliminary subcritical points such as the consolidation of Communist power in various organizations, increasing influence over leadership, the tempo and direction of propaganda efforts, and the effectiveness of agitation as demonstrated by strikes and coordinated group attack on the constitutional order.

Any discussion of countersubversion must recognize at the outset the substantive nature of the basic problem as well as the fact that its current activities are in a period of definition and develop-

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ment, as explained in the section on psychological operations in the preceding chapter. Countersubversion must begin with an analytical study of Communist activities in every form, and particularly of reputable disclosures of their aims and methods of operation. A clear understanding of the nature of Communist subversion is also essential to the development of appropriate countermeasures which will accomplish their intended purpose without becoming repressive and destructive of the institutions they are designed to protect. This problem was clearly stated by former President Truman in a message to the Congress in August 1950:

We face today, as we have always faced in time of international tension, the question of how to keep our freedom secure against internal as well as external attack, without at the same time unduly limiting individual rights and liberties.

Mr. Truman continued by pointing out that the best deterrent to subversion is:

A vigorous, functioning democracy which succeeds in meeting the needs of its people. A vigilant people, who exercise their democratic rights to keep their government active in the interests of all, can defeat the efforts of Communists to attain electoral power.

Measures to Counter Subversive Activity

Measures for countering purposes require: first, an identification of specific aims and methods of the subversive effort; and second, procedures aimed directly at countering them. One double-edged Communist objective is to become identified with democratic idealism, liberal and reform groups, and any dissident elements desiring change, and thus to undermine, corrupt, confuse, and destroy public confidence in the established constitutional order. Once this procedure has been discovered and localized, a series of related countermeasures must be undertaken to expose this objective and destroy it by means of full and accurate information disseminated to the particular groups affected. The general measure is a program of information and education, implemented by other related specific measures. Truth has always been the surest weapon in the long run to defeat secrecy, deceit, and evasion, and the practices of communism cannot withstand the clear view of public observation.

Indeed, it would appear that the staunchest supporters of the philosophy of communism are those who have never lived under its rigid political system. This countermeasure of information and education might well be implemented by exposure of Communist double-talk, specifically Communist connotations of democratic terminology to mean something entirely different, and the positive identification of Communists within an infiltrated group.

In employing their organizational method of subversion, the Communists of necessity endeavor to conceal their bid for power. A countering measure to this method is the identification and isolation of the organizational targets involved, coupled with a mobilization of anti-Communist groups within it to expel the subversives. In the case of Communist front organizations, means of identification were suggested by J. Edgar Hoover, Director of the FBI, in his testimony before the Committee on Un-American Activities in March 1947:

There are easy tests to establish the real character of such organizations:

1. Does the group espouse the cause of Americanism or the cause of Soviet Russia?
2. Does the organization feature as speakers at its meetings known Communists, sympathizers, or fellow travelers?
3. Does the organization shift when the party line shifts?
4. Does the organization sponsor causes, campaigns, literature, petitions, or other activities sponsored by the party or other front organizations?
5. Is the organization used as a sounding board by or is it endorsed by Communist-controlled labor unions?
6. Does the organization receive consistent favorable mention in Communist publications?
7. Does its literature follow the Communist line or is it printed by the Communist press?
8. Does the organization present itself to be nonpartisan yet engage in political activities and consistently advocate causes favored by the Communists?
9. Does the organization denounce American and British foreign policy while always lauding Soviet policy?
10. Does the organization utilize Communist "double talk" by referring to Soviet-

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- dominated countries as democracies, complaining that the United States is imperialistic and constantly denouncing monopoly capital?
11. Have outstanding leaders in public life openly renounced affiliation with the organization?
 12. Does the organization, if espousing liberal progressive causes, attract well-known honest patriotic liberals or does it denounce well-known liberals?
 13. Does the organization have a consistent record of supporting the American viewpoint over the years?
 14. Does the organization consider matters not directly related to its avowed purposes and objectives?

Supplementary countering measures to further isolate the target and to motivate appropriate internal forces will vary according to the nature of the target itself, just as do the methods applied by the Communists. Whatever the particular approach, on the basis of evidence gathered, the basic loyalties of reliable members must be stimulated into action to set their own house in order and to administer their own countersubversion activities. Depending upon the seriousness of the circumstances, they may find it necessary to resign, or possibly to fight to regain control. The importance of an internal attack on subversive influences cannot be overemphasized; countermeasures by formal opposition external to the target may result in strengthening rather than destroying the power of the subversive elements.

Since an organization's leaders, whether at the top or on lower echelons, are expected to maintain the established order and to protect the status and integrity of the associated membership, their aggregate and individual influence is tremendous. In commenting on Communist use of such influence, J. Edgar Hoover, in his article, *How To Fight Communism*, written for *Newsweek* in June 1947, said:

... in one union with nearly 100,000 members, 500 party members were able to control the union. Another union with 8,500 members sought to free itself from Communist control but failed despite the fact that there were less than 200 party members in the union.

In one instance a single Communist by clever manipulation at a union convention was able to dictate resolutions adopted by the convention.

The radicalism or persistence of leadership will sometimes give evidence of its subversive and indicate the degree of crisis within the controlled group. Where Communist trained leadership is involved, the countermeasures of identification, isolation, and information may assist in uncovering its deception and deceit. Outright replacement then becomes a countermeasure to be adopted internally. In the case of group leaders who have become sympathizers and collaborators, guidance and reorientation may be a useful countermeasure. Appropriate guidance must encourage a self-clarification by these group leaders of their own position and responsibilities and point out actual Communist methods used to manipulate other leaders for Communist objectives. Supplementary countermeasures to strengthen leadership *before* it has been attacked are important from a protective security point of view. In the modern war of subversion there may well be a subtle competition for power through an unsuspecting leadership; countersubversive measures must be aimed toward winning that competition by encouraging and strengthening leadership.

An intermediate subversive method of the Communists is to infiltrate organizations, not for the purposes of domination and control, but rather to use non-Communist groups as the means for accomplishing either general or limited purposes external to these groups. Success in this method is achieved when Communist aims become identified and unified with those of non-Communists; and the problem becomes one of collaboration. Countermeasures for this subversive effort must begin with a program of education and information, but must be further refined and directed toward the affected group, reorienting some and isolating others. The primary effort, of course, should be directed toward the collaborators rather than the infiltrators.

According to Mr. Philip Selznick in his book, *The Organizational Weapon*, an examination of Communist strategy in subversive activities will reveal that two sources of strengths are, first, the historic credibility of Communist doctrines and objectives, particularly when associated with the growth of the Soviet Union, and second, the established constitutional processes of democratic society which protect and encourage the rights,

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privileges, and freedoms of the individual both singly and in organized groups. The inevitable imperfections of the democratic society are seized upon by the Communists who offer in their place glittering promises and happy easy solutions. Therefore, above and beyond the successful countering of the specifics of Communist subversion there must be a continuing conscientious effort to find solutions to troublesome social issues of modern times. Such solutions can come from the active consecrated devotion of a united, informed citizenry to the American way of life. Drawing upon their own moral and spiritual strength, Americans can, in the words of J. Edgar Hoover, "make our democracy so strong and so workable that the Communists can never compete with its reality." He goes on to say that this can be done without any "abridgement of civil liberties."

This discussion of measures to countersubversion is based in part on and considerably amplified by a chapter entitled "Problems of Counter-offense," in Philip Selznick's *The Organizational Weapon*.

Techniques in Countersubversion

All of the techniques already mentioned have utility in the field of countersubversion. From the naval point of view the orderly processes of analysis and recommendations for action are immeasurably aided by means of comprehensive files, special studies, and effective liaison with appropriate governmental agencies. Suspect and summary cards, topical cards, all carefully and completely cross indexed, permit the accumulation of information and ready reference to any item of possible interest. Reference and background material on organizations, groups, trends, and situations which may have no immediate use often provides important clues and gives fuller meaning to later developments. Periodic and special studies of subversive trends can give warning of specific dangers and suggest the use of effective techniques and measures. Liaison between the various agencies engaging in countersubversion activities is extremely valuable in assuring coordination of effort and in pooling information of common interest.

The intricate, diverse, and delicate problems of subversion require a full arsenal of countering

techniques. In considering these problems, together with those of espionage and sabotage and the techniques and measures of countering them, it is not inappropriate to suggest that a good counterespionage operator must first be a good spy, a good countersabotage agent must first be a good saboteur, and good countersubversion personnel must first be skilled in the arts of subversion.

GENERAL SECURITY CONTROL MEASURES

From the preceding discussion it has become increasingly apparent that protective measures and devices for classified information, vital equipment, installations, and personnel are essential aids for detecting, deterring, or preventing foreign-sponsored activities inimical to the best interests of the United States. Such measures and devices are called security control measures and may be either physical or procedural. Physical security control measures have already been enumerated; procedural measures include secrecy discipline, document security, communications security, censorship, and personnel security programs. Just as physical measures are effective only when backed up by alert, well-trained guards, procedural measures are effective only when enforced by all personnel associated with the agencies involved, whether military or civilian. Therefore, while counterintelligence prepares recommended procedures and specific groups are assigned to direct their enforcement, the purposes of security control measures and the consequences of their failure must be completely understood by all individuals concerned. This, of course, is a matter of specific training and realistic education; it is by no means a mere formality.

Secrecy Discipline is the training of individuals to safeguard rigidly and consistently any and all classified information or material known to them or in their custody; it relates to the dissemination of that information or material only to authorized persons. The human hazard to security is universal and perhaps the greatest single vulnerability with which counterintelligence must contend. The ignorance, conceit, pride, faith, and enthusiasm of individuals become tools in the hands of an enemy, for people are prone to talk and those who are untrained may quite unwittingly disclose valuable bits of information. Care-

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less boasting arising out of conceit can become an excellent source of information through which almost any known facts can be gained by the patient, encouraging listener. Ignorance either of the potential value of specific information or of the subtle methods employed by a skilled enemy can be highly damaging; while faith and confidence in family or friends have often resulted in the ultimate transmission of vital facts. Therefore, training must both identify and stress the importance of classified information and those who have need to talk about it must use the utmost discretion. The human hazard necessitates strict measures in the dissemination of classified information: only those who require it should have full knowledge; others should be given only limited access to the extent needed in their work. The basic problem is not one of loyalty so much as the hazard inherent to any conversation.

As an aid to the recognition of important items of information or material, appropriate classification is assigned to each in the manner described in chapter 11 and the procedural methods for handling are indicated by the classification. This measure is known as *Document Security* and covers such items as correspondence, reports, studies, blueprints, photographs, publications, specialized equipment and other significant materials. The problem is the assignment of a classification which is appropriate to the items concerned, and the greatest care must be exercised to achieve the proper degree of classification. Overclassification can become a danger and a hazard in itself, weakening procedures for enforcement as well as the respect of individuals who are responsible. Those concerned with document security may find it helpful to ask themselves the question, "Will this information or material be of value to an enemy and how valuable may it be?" The importance of effective document security can perhaps be more fully appreciated when it is remembered that high value is placed on captured enemy documents as a source of information.

Just as the transmission of information by an espionage agent represents a point of critical vulnerability for him, so likewise it is a vulnerability for any military or civilian agency. *Signal Communications Security*, therefore, covering all types of electrical transmission, is a vital control

measure for the safeguarding of information by means of codes and ciphers and the protection of the cryptographic devices or systems employed in connection with them. Increasing dependence on radio to transmit information between far-flung units and their headquarters has increased the possibilities of interception and hence the importance of message security. The encoding of classified messages has become customary, with a possible exception in time of war when the urgency of the information and the fact that an enemy would not have time to act upon it permits transmission in plain language.

Censorship, both civil and military, is normally a wartime control measure applied to the transmission of information or material by unofficial means such as letters, photographs, packages, news releases, cable, and radio. From past experience it has been found that personal correspondence and diaries can be rich sources of information to an enemy regarding such matters as the location and strength of military units, troop, and ship movements, morale, weather conditions, operational planning, and new weapons, equipment, and procedures. From the point of view of military censorship, unauthorized disclosures can be reduced if not eliminated by successful secrecy discipline and a clear understanding by all personnel of the reasons why censorship is necessary. In this way many innocent subterfuges to evade the regulations can be forestalled and the workload lightened for those who must enforce them. Censorship not only operates to deny classified information to an enemy but also to collect information of intelligence value and to detect illegal covert enemy operations; therefore, as a source of new information it is more than a protective and preventive measure of security. It is also a valuable counterintelligence device for making spot checks on suspect individuals and groups and it provides a means for intercepting their communications and examining them for secret inks or writings. It follows, therefore, that censorship personnel must be trained and highly endowed with the qualities of good judgment, discrimination, and perspicacity.

Since the success of all security control measures, whether physical or procedural, is dependent upon the people involved, it follows that *Personnel*

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Security control measures are basic and fundamental, for the best training and the most impenetrable barriers will have little effect if disloyal, indiscreet, or emotionally unstable persons hold positions where vital material is available. Personnel security, therefore, must be a comprehensive and pervasive measure applied with equal effectiveness from the various levels of government, through the military forces, to industry and its related services, wherever classified information and material are involved. This measure includes investigation of all individuals holding sensitive positions or having access to vital information and the issuance of official security clearances, but it should be emphasized that counterintelligence is responsible *only* for the investigative aspect. Official clearance is the responsibility of the military commander or the head of the Government agency, as the case may be. In reaching a decision for security clearance the responsible authority must carefully weigh the security risks inherent to the position, his own knowledge of the applicant, and the facts presented by the investigation. In addition to military personnel and employees of various governmental agencies, clearances are required for individuals employed by contractors bidding for and carrying out military and Government contracts which relate to classified material.

The magnitude of the task of agencies responsible for personnel security is indicated by a report of the FBI published in 1952 that over 3½ million loyalty forms were completed in the 5-year period following 1947 when the loyalty program of the United States Government was undertaken. During the fiscal year 1951-52, the report continues, more than 800,000 investigations into the loyalty of Government job applicants or employees were made. While decisions to issue clearances sometimes present difficult problems requiring the most careful judgment, it may be accepted that they will not be granted by a military commander to individuals whose background investigations reveal certain unfavorable facts. Such facts would include seditious or treasonable public statements, association with foreign agents or acts related to sabotage or espionage, affiliation or sympathetic association with subversive organizations, a record of security violations, an established history of

serious mental or emotional instability, or positive indications of basic weaknesses of character or substantial and continued lack of good judgment. A successful personnel security program will insure that loyal and discreet people have been employed to fill all positions related to or concerned with classified material; on this basis the possibilities for the success of other security control measures will be tremendously increased.

THE INVESTIGATIVE FUNCTION

A general discussion of the important function of investigation which relates to many types of countermeasures involves consideration of the investigator and the techniques he may use or have at his disposal. A number of the special personnel attributes already mentioned are applicable of course to the general investigator. Others of his professional requirements are gained through research, study, and practical experience. Apart from specialized forms of interrogation such as used in collecting information from prisoners of war, most of the counterintelligence techniques are related or subordinate to that of investigation.

The Investigator, His Sources, and Personal Qualities

In their book, *Specific Procedures for Investigations in General*, Frary and Sullivan summarize the qualities of an investigator as follows:

. . . the foundation upon which a successful career in investigation is based comprises common sense, good judgment, good health, average mentality, accurate observation, the ability to factually report one's observations, and the attribute of a well-developed fund of general information. If the above are present and coupled with the basic qualities of any normal, good-living individual such as honesty, sincerity, integrity, discretion, etc., then the foundation for his training is adequate.

He is neat and well groomed but not conspicuous, blending into whatever group he joins. He is pleasant, polite but not ingratiating, poised but not overbearing. Placing a high value on his reputation, he is discreet, avoids gossip, and carefully protects the identities of his confidential sources. With supple skill, he adjusts his train

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and pace of thought to that of the person with whom he is dealing, drawing out critical facts with apparent casualness and sorting the significant from the incidental as he goes. He makes certain that he is properly equipped to carry out his assignment, including possession of appropriate credentials.

Before starting a case, the investigator makes a thorough analysis of it and all pertinent material already assembled; he plans his approach in order that his time may be employed to maximum effectiveness. Methodically building his case, he is objective in his approach, follows wherever the facts lead, and never tries to fit the facts into preconceived conclusions. He keeps a careful record of progress, aware that the use of a notebook is his best assurance that all leads have been covered, that it will serve to refresh his memory if called upon as a witness at a trial, and that it may prevent him from falling victim to an unscrupulous opponent. In successfully handling his assignment, he is materially aided by his accumulated knowledge, by his exploitation of potential sources of information, by his practical understanding of human behavior, and by his capacity for accurate observation and reporting.

The most easily accessible sources of information on individuals, organizations, or incidents under investigation are records and files which provide original information as well as corroboration for or explanations of facts already known. Public records are available at the local Bureau of Vital Statistics, the Registry of Motor Vehicles, the Selective Service headquarters, the Police and Post Office Departments, public welfare and social agencies, Registries of Deeds and of Probate, offices of Clerks of Courts, the Veterans' Administration, the United States Employment Service, and the local offices of the Treasury Department: Customs, Immigration, and Naturalization. Public libraries are excellent sources for both general matters and specific items of fact such as may be found in business and city directories and statistical studies. Records of private organizations may also be made available on a confidential basis to representatives of governmental agencies for official purposes. Such records are those of banks, bonding companies, credit investigation agencies, fraternal

organizations, educational institutions, hotel associations, labor unions, hospitals, manufacturing and business enterprises, newspapers, telephone and telegraph offices, and transportation companies.

People are also valuable sources of information about subjects under investigation. In cases involving persons, for example, there are those with whom the individual has been associated: club members, neighbors, employers, friends, each of whom has formed impressions from a variety of connections. The investigator will make a particular effort to cultivate and develop a wide range of personal acquaintances who, on the basis of friendly cooperation, will be glad to furnish any pertinent available information either voluntarily or when asked. Such acquaintances, known as contacts or informants, are likely to be most helpful and productive of important leads in a case. It has been estimated that about 95 percent of all crimes are solved by informants—someone who saw something, heard something, or experienced something he was able and willing to report. Such persons are not necessarily in important positions; rather they are individuals who for one reason or another have opportunities for observing significant incidents in ordinary daily life. The newsdealer and cigar-store proprietor on a busy downtown intersection meet hundreds of passersby daily, become acquainted with many of them, and, during the regular course of business, are present where happenings of potential interest may transpire. The milkman and the postman in suburban areas have excellent opportunities to observe the daily lives of those in the communities they serve, as do the filling station operator, the barber, the hotel waiter, the bellboy, and the bus or trolley operator. Secretaries for executives and clerical supervisors can also be of invaluable assistance. Recognizing the importance of people as sources of information, the experienced investigator will have a ready knack for making friends and a genuine interest in people as individuals.

The full utilization of personal contacts or informants, as well as the intelligent analysis of the individual under investigation, logically requires a practical understanding of psychology and human behavior. Such understanding is useful in

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forming hypotheses to explain certain actions of individuals, in interviewing contacts or interrogating suspects, and in drawing out information from those who possess knowledge of certain facts. Abnormal psychology is a subject of practical study. According to Dr. Harry Söderman, one of the authors of the authoritative text, *Modern Criminal Investigation*:

Every good detective should have a general knowledge of mental illnesses and constitutional abnormalities of the mind. In the course of his investigations he will often meet persons whose actions and motives may seem puzzling to him if he is not equipped with some knowledge of psychiatry . . .

A knowledge of the signs and symptoms tending to prove mental illnesses is, of course, necessary. Familiarity with the personality make-up of neurotic persons, of epileptics and hysterics, should be of particular interest to the interrogator, as these conditions often affect suspects as well as witnesses.

An individual who is not insane in the true sense of the word, but who nevertheless shows great divergence in character and emotional reactions from those of a normal person, may be classified as a psychopathological person. The intelligence of such a person is often quite satisfactory and at times highly developed. However, it exercises entirely too little control over his actions, which, instead, are generally influenced by compulsive emotional reactions . . . Among these persons we encounter many criminals.

Of the many other practical items of knowledge about human behavior, two merit special mention. The first is the surprising degree of uniformity in thoughts and reactions to a common situation, in spite of the numberless differences in human personality. In *The Art of Detection*, Jacob Fisher points out the source of strength which the predictable sameness of human behavior represents for the investigator. By way of illustration, he cites the multiple-husband racket carried on by a large number of women during World War II in order to obtain dependency allotments from their husbands whom they met and married just prior to the latter's movement overseas.

This wartime activity was new to the women involved . . . Nevertheless each of thousands of women in every part of the United States thought up a scheme for some easy money, never dreaming that it paralleled almost

exactly the illegal schemes of thousands of other women.

The second is the wide divergence in the capacities of human beings to observe and report accurately what they see, hear, smell, feel, and taste. All knowledge and experience come to the individual, of course, through the various sensory organs. Since sensory perception is not uniform among human beings, it may be expected that several reports of a single factual situation will disagree. Furthermore, physical objects and specific situations may evoke a variety of responses because of past experiences which result in a perceiving of things not as they are but as the individual thinks they ought to be or in a form in which he perceived them on prior occasions.

This problem of accurate perception is one which the investigator must solve in his own case. He himself must be able to observe and report accurately and be prepared to interpret the factual significance of reports received from others. Frary and Sullivan, in their book already quoted, have this to say:

. . . there is no phase of investigative work which is not dependent completely upon an individual's ability to observe and describe. For example, when an investigator is interrogating a subject, interviewing a witness, or evaluating an informant's information, he is constantly observing that person for the purpose of detecting any indication of falsehood or any error in observation; when an investigator is conducting a surveillance it is obvious that his powers of observation must be completely and constantly employed, for it is impossible to "shadow" a man and not closely observe him.

Realizing that inaccurate reporting can arise also from forgetfulness or an inability to describe what has been perceived, the investigator must take steps to correct any such personal deficiencies. The latter difficulty necessitates careful study in order that he may correctly interpret the meaning of what he observes. Frequently he is called upon to describe individuals, their characteristics, or peculiarities in their methods of operations. He is expected to reconstruct in detail the physical scene of an incident. No less important is his ability to recognize when he himself is under observation.

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Determination of Techniques in Investigation

The particular techniques employed will depend upon the nature of the investigator's case, and his plan of attack will be derived from a careful analysis of the problem. Security investigations, in general, concern individuals or situations. The former are investigated to determine suitability for a security clearance. The latter concerns a specific, suspected threat to security or the violation of a federal law by a person under naval jurisdiction.

A personnel security type investigation is approached as a general inquiry into an individual's background. Ordinarily, at the outset there is no suspicion that the subject is a wrongdoer. A personal history statement provides the starting point for an independent inquiry, including checks of the various record and file sources already mentioned. The collection of data and the scope of the investigation depend upon the sensitivity of the work to which the individual may be assigned, and the investigation is conducted to provide information for some naval commander for whom the individual will be working.

An investigation into a situation believed to be a threat to security is undertaken to develop information for use by a naval commander in safeguarding his command. Usually a particular incident has occurred and is the impetus for the start of the investigation which proceeds to collect evidence that will prove or disprove the existence of a threat to security. For this type of case, and also for the case where the investigator is gathering facts concerning the possible violation of a Federal statute, there is an eventual possibility that the investigation may result in a legal proceeding either under the *Uniform Code of Military Justice* or under rules of a civil Federal court. Therefore, the investigator not only has the task of assembling data for the naval commander concerned, but also he must collect and preserve data in accordance with the special requirements posed by the rules of legal evidence in order that the facts ascertained may be admissible in a formal court proceeding.

Technical Aids and Equipment

When determining suitable techniques, the investigator also should be aware of the technical

equipment and scientific aids available for his use or assistance in the development or confirmation of information. Electronic equipment, much of it portable and easily concealed, permits hearing and recording conversations without detection. For example, specially designed microphones placed against a common wall will amplify conversations in an adjoining room sufficiently to be heard plainly; such conversations can also be recorded. Other equipment will facilitate the survey of offices and conference rooms to determine whether or not enemy agents have installed devices for broadcasting or recording purposes. While equipment has also been perfected for tapping telephone lines, the Federal courts have ruled that conversations recorded by such means may not be received as evidence.

In connection with scientific aids, the investigator's responsibility is to understand their capabilities, to be able to explain to the technician the information desired, and to know where such aids can be obtained to assist him. Because of their specialized nature, the general naval investigator should rarely attempt to use them himself; rather he should make use of equipment and trained personnel available at the Office of Naval Intelligence in Washington, at the District Intelligence Offices, and at other specified locations in the field. The Physical Security Equipment Agency located in Washington maintains equipment for investigative work and loans it to the Armed Forces. Also, through established channels, the technical services of the FBI and State police organizations may be utilized. While scientific techniques and laboratory examination can provide invaluable assistance in the development of information, it must be remembered that they can never replace the trained investigator or his personal efforts in locating and interviewing witnesses, evaluating, and integrating factual evidence.

Some of the more important forms of scientific analysis are microscopy, spectrography, firearm identification and ballistics, fingerprint identification, document examination, and specialized photography. *Microscopy*, called the bulwark of scientific investigations, involves the examination of minute particles of physical evidence such as paint, dust, soils and minerals, human hair, blood and other stains, coal dust, and ashes. *Spectro-*

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raphy is the science of measuring the wave length of a substance. Every substance has a characteristic wave length, which, to a laboratory technician, is the equivalent of a fingerprint of that substance. *Firearm identification* and *ballistics*, utilizing comparison microscopes and helixometers, provide a scientific means for determining that a particular weapon fired a particular missile. Bullets and fired cartridge cases are therefore important bits of evidence for scientific investigation.

Exhaustive research has led to the conclusion that no two persons have identical *fingerprints*. Therefore, identification by a qualified fingerprint examiner is generally accepted as conclusive proof of the identity of an individual. The FBI maintains an ever-expanding master file of millions of sets of fingerprints which it will search upon request by any proper law-enforcement agency. To satisfy the requirements of the FBI for positive identification, additional fingerprint cards submitted for filing are accepted only if there is furnished a complete set of suitable impressions of all fingers and thumbs. Nevertheless, sometimes single fingerprints may serve as important clues in the solution of a crime and the investigator should have a general understanding of fingerprint characteristics and procedures for locating and preserving them. Subjects analogous to fingerprints include the identification of footprints and tire tracks, all of which require special study and training on the part of the investigator.

Document examination is a technical specialty in scientific analysis which involves the identification of handwriting and typewriting, the use of inks, and the analysis of the characteristics and age of paper and other writing materials. *Photography* has many specialized applications in the field of investigation both as to types of equipment used and as to the use of photographs as evidence. The investigator must be familiar with the capabilities of ultraviolet and infrared photography, for example, and understand that to be admissible in court, photographs must be inherently truthful in what they portray.

Surveillance

An important and productive technique in investigation is surveillance. This consists of observing a person, a place, or a vehicle for a given

period of time in order to obtain specific information. Illustrative purposes of this technique are: to maintain a continuous watch on a particular person; to identify all individuals associated with the enterprise or activity under investigation; to prevent an illegal act or to apprehend the individual attempting it; to locate the headquarters and meeting places of suspect organizations; to determine means of communication employed by subversive groups; to obtain factual data about a person for later use in interrogation; to check the accuracy of reports submitted by informants; to locate the hiding places of stolen property or contraband.

Although often producing valuable results, surveillance may be expensive in time, money, manpower, and equipment required; hence, careful advance planning is required after a decision has been made that the probable results justify the effort. Because surveillance can seldom be successfully conducted by a single investigator, the ABC, or three man team, method is often utilized. The basic team positioning is for A to follow behind the suspect individual, with B behind A, and C abreast and across the street from the subject. C is thus in a position to signal the subject's movements if the latter is lost to the view of A and B. This team method permits the frequent exchange of positions to minimize risks of detection and makes possible a continuity of the surveillance even when one of the team is required to drop out for any reason.

This technique has many exacting requirements. Each member of a team must have an appropriate convincing cover story should he be challenged. Signals must be prearranged, together with special means of communication with the home office. If vehicles are required, it may be desirable to use rented cars, changing them as necessary, or to procure license plates which cannot be traced. Careful study must be made of the geographic area to facilitate easy and unobtrusive movement. The subject himself must be intensively studied both as to his physical characteristics and as to his normal daily routine and habits. Depending upon the time element, a relief team must be made available, capable of taking over smoothly and inconspicuously.

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There are an infinite number of problems which can develop during a surveillance and only training and experience can assist in their solution. Indicative of the problems are the movements of a suspect into buildings, elevators, telephone booths, theaters, and buses, trains, or subways. It is possible that the suspect will sense the fact that he is being followed and deliberately attempt to escape, or he may have a second party specifically employed to watch for and identify surveillants. He may confront the investigator and demand an explanation. These hazards may be overcome by avoiding direct eye contact with the subject, by eliminating signs of recognition between investigators, by training the investigator to be completely casual and natural. Patience is an outstanding requirement; the investigator must be prepared to walk and to wait for long periods of time, sometimes in physical discomforts, always observing carefully and taking notes wherever possible. The activity of surveillance is both a severe physical strain and a stern test of the ability to concentrate.

This technique, however, is only a means to an end. Consequently, its results must be evaluated progressively in order to determine its continuing value or the advisability of shifting to another technique which may be more productive in the time available.

The Interview

The Interview, an indispensable technique which plays some part in almost all investigative work, is a direct method of obtaining information. Its rules are based on the assumption that the environment is voluntary and that the conversation with the person being interviewed has as its purpose the providing of helpful information on a particular subject. Whenever possible, the investigator should plan his approach in advance as a time-saving device and to keep control of the discussion. However, he should never attempt to force the conversation and so prevent the person being interviewed from relating in his own way all that he knows; nor should he suggest possible answers to questions asked. Of importance is an accurate appraisal of the person interviewed in order to establish a pleasant open atmosphere.

Courtesy and tact are invaluable attributes. Above all, the investigator should suppress personal feelings of bias or prejudice and maintain an objective point of view. It is here that a practical knowledge of psychology and a facility for friendly directed conversation have special value.

Interrogation

The distinction between an interview and an interrogation is an important one to make. The former involves the questioning of a person who is either willing to provide information or at least passively neutral in his attitude; the latter concerns a person who is either suspected of an offense or unjustifiably is holding information in his possession. The difference becomes a matter of degree, depending upon the intensity of the conversations and the attitude of the subject toward providing the desired information. A distinction also exists between interrogation of prisoners of war and interrogation of persons involved in security and criminal investigations.

Usually, the technique of interrogation is one of the last to be used in connection with investigation because its effectiveness often depends upon the prior collection, by other techniques, of sufficient data to give the interrogator leads for questions and facts to verify statements made. Interrogation also may result in admissions by the suspect, followed by a full confession first given orally and then reduced to writing.

Criminal interrogation calls for a high degree of skill, a wide experience, and a keen insight into human personality. Well done, the interrogation often can provide a solution to the investigation; prematurely attempted or ineptly handled, it can result only in the recalcitrance of the subject and a dissipation of the strength of psychological factors involved. Interrogation is a technique which requires detailed study and should be undertaken only by specially trained personnel when its employment seems justified.

In his practical book, *Lie Detection and Criminal Interrogation*, Fred E. Inbau stresses the importance of the environment for the interrogation and the approach of the interrogator who must make proper utilization of principles of psychology. A suitable and strictly private room for

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interrogation with no more than one or two interrogators present is essential because of the fact that people instinctively are sensitive about speaking frankly of their actions and motivations in the presence of a group of observers. The room itself should contain no distracting features such as pictures or wall decorations; however, it should be equipped with concealed recording equipment and a one-way mirror through which an observer can follow the proceedings and corroborate them if required. An interrogation should never be conducted in a location where the subject feels confident or superior, such as his own home.

The particular approach of the interrogator will, of course, depend upon the data he already has assembled and the personality of the suspect. In general, according to Inbau, the suspect must be convinced that the interrogator is merely seeking the truth and in no way relentlessly attempting to force a confession. Based on this objective, the language used should be easily understandable; harsh, uncompromising words should be avoided. For example, "kill," "steal," and "confess" should be replaced by "shoot," "take," and "tell the truth." At the outset, it is often desirable to ask non-sensitive, routine questions as a means of conditioning the subject to answering and to his surroundings. This procedure also enables the interrogator to size up the suspect and to determine the best approach to the critical phase of the interrogation.

When the guilt of the person involved is reasonably certain and the primary purpose of the interrogation is to obtain an incriminating admission or a full confession, the interrogator may adopt an attitude of sympathetic understanding if the suspect shows feelings of genuine remorse or mental anguish. On the other hand, for those who have no such feelings, the practical, cards-on-the-table approach may be more suitable in order to show the subject that other evidence of guilt exists. If guilt is doubtful or uncertain, the interrogator must, in the words of Inbau, "feel his way around," seeking to detect deception and searching for positive clues of guilt or innocence. Such clues may be derived from inconsistent statements, signs of physical uneasiness, inadequate explanations, and attempts to lie.

The Polygraph

Properly associated with the topic of technical equipment, the polygraph or lie detector is mentioned at this point because of its frequent use in connection with interrogation as a means of discovering deception. This instrument records and measures the physiological changes induced in an individual by his emotional response, usually involuntary, to questions addressed to him. Relative changes in blood pressure, rapidity and amplitude of pulse, variations of the respiratory pattern, and minute changes in the conductivity of the skin are detected and recorded on graphs. While the operation of the physical equipment is relatively simple, the interpretation of the resulting charts is highly technical, requiring not only specialized training and extensive experience, but also complete integrity on the part of the technician. The careless, over-anxious operator who attempts to prove more than the equipment is capable of proving can produce interpretations and reach conclusions which are completely unwarranted.

The investigator, therefore, must be aware of the capabilities and limitations of the polygraph and recognize that its results are dependent upon the skill and ability of the operator. Based upon the experience of the scientific crime detection laboratory at Northwestern University, it has been estimated that out of every 100 subjects tested, a competent polygraph examiner can make an accurate and definite diagnosis for about 75 to 80. The chief source of error is a failure to detect deception by a guilty person rather than the misinterpretation of the record of one who is innocent. Properly used, the polygraph makes possible greater accuracy in the detection of deception and has a decided psychological effect in inducing guilty persons to confess. At times this equipment can be employed as an initial technique in investigations involving several suspects. By such means it is often possible to eliminate the innocent, with a considerable saving in total time involved in the solution of a case.

Legal Evidence

In any investigation which may result in court action, the investigator is responsible for obtaining and protecting available physical evidence,

and for demonstrating a continuous chain of possession through the hands of any and all of its custodians. Knowledge relating to the admissibility or inadmissibility of data as legal evidence is also essential to avoid the dismissal of a case on technical grounds. While a detailed discussion of this subject is beyond the scope of this chapter, it should be pointed out that the *Manual for Courts-Martial United States 1951*, its *Naval Supplement*, and the *Uniform Code of Military Justice* are basic materials with which the investigator in the armed services must be familiar.

One procedural requirement which these publications impose upon the conduct of interviews and interrogations is initial advice to the individual of his legal rights. Article 31 of the *Code* provides against compulsory self-incrimination and also states:

No persons subject to this code shall interrogate, or request any statement from, an accused or a person suspected of an offense without first informing him of the nature of the accusation and advising him that he does not have to make any statement regarding the offense of which he is accused or suspected and that any statement made by him may be used as evidence against him in a trial by court-martial.

On this basis, the Office of Naval Intelligence requires that a written confession include the statement that the signer was initially informed of his rights, wherever he will agree to do so.

Formal Report

An accurate, objective formal report is the concluding phase of the investigator's field work on a particular case. In the armed services this report is particularly important because the military commander as the action officer responsible for the security of his command must rely upon the investigation report as his primary source of information upon which to predicate his action. For this reason, the qualities of clarity, completeness, and impartiality in presentation are essential. The reporting responsibility of the investigator is exacting and challenging.

In many instances the formal report will involve the careful coordination of preliminary investigative reports prepared by a number of contributing naval agencies, particularly the District Intelli-

gence Offices, for investigative leads may be developed in several geographic areas.

Investigations of all varieties absorb much of the time and energies of the counterintelligence organization. Their problems will often challenge the ingenuity of the investigator, but most of the work is routine, requiring careful attention to minute detail. However, for the investigator there is a reward in the form of deep personal satisfaction when the "tough case" is broken through his skill, imagination, and industry.

NAVAL COUNTERINTELLIGENCE ORGANIZATION

While the Security Branch of the Office of Naval Intelligence is the center of counterintelligence activity within the Department of the Navy, a number of other offices and agencies of necessity play a significant part in the total effort. For example, in the collection of information the Security Branch relies heavily upon the District Intelligence Offices, naval attachés, fleet units, and other governmental intelligence producing agencies, both foreign and domestic. Likewise, in connection with security control measures, its function is that of disseminating intelligence since corrective action to be taken is a responsibility of command. Communications security is a primary responsibility of the Director of Naval Communications although there is close mutual support in activities of common interest. Similar cooperation takes place in connection with national internal security which is a responsibility of the Department of Justice and in contractor personnel security which involves a number of departments of the executive branch of the Federal government. Thus it can be seen that collaboration, coordination, and liaison are essential to the successful operation of the Security Branch.

From the counterintelligence point of view, the functions of the Security Branch include:

1. The production for appropriate dissemination of intelligence to warn of and to aid in countering threats of espionage, sabotage, and subversion, particularly as they may affect the Naval Establishment.
2. The administration and utilization of counterintelligence techniques, particularly investigation.

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3. The formulation of policy concerning security control measures, including the clearance of classified information to foreign agencies and participation in the application of censorship and commerce and travel control.
4. The coordination of the naval effort with that of other counterintelligence agencies.

The importance of the coordinating function has been emphasized by the subversive characteristics of the cold war and the worldwide locations of naval units and activities which have tremendously expanded the scope of the interests of the Security Branch. The functions of the Branch are delegated and distributed among the following sections: S. E. C. (Sabotage, Espionage, and Countersubversion), Investigations, Security Policy, Security Control, Censorship, and Commerce and Travel, the latter two being fully activated only in time of war. It should be noted that a number of these sections have functions and responsibilities which are not directly related to counterintelligence. In considering the matter of organization, it should further be remembered that changes occur from time to time as needs and emphasis shift, so that the important considerations are the *functions* performed in supporting the broad mission of producing intelligence for the protection and security of the Naval Establishment. In any event, the activities of the various sections are closely related and continuing mutual assistance insures integration of effort.

The S. E. C. Section is a research and evaluation unit, responsible for the analysis of information and the dissemination of the resultant intelligence to appropriate naval authorities for use in planning and executing effective counter and protective measures. Because of the pervasive nature of counterintelligence itself, this dissemination may include not only naval activities but also other government agencies. The section's interests are worldwide. Like a headquarters staff, it correlates information received from a wide variety of sources, and while it must call upon other activities for the collection of specific information desired, it is not limited geographically in its collection effort. From a mass of raw material, it must extract significant items, evaluate them, and

disseminate them in usable form. Its research subjects include personnel, techniques, finances, communications, situations, trends, and objectives of subversive and covert foreign and domestic organizations. While much of this research is of a long-term nature, designed to produce detailed studies of value to many branches of the Department of the Navy and other government agencies, the section must remain alert for any significant single items which, when interpreted, indicate some new threat or trend, or possibly a new approach by a subversive activity, requiring prompt dissemination to the appropriate action agency.

Close liaison with Army and Air Force Intelligence, the Federal Bureau of Investigation, the Central Intelligence Agency, the Department of State, the Treasury Department, and other agencies of the government permits a valuable interchange of information of mutual interest and benefit. Other sources of information include domestic and foreign newspapers and periodicals and transcripts of foreign radio news broadcasts. During World War II the various intelligence and interrogation reports from United States and Allied forces abroad were useful sources. With the approval of competent authority, information is also exchanged with agencies of friendly foreign governments. In its collection and evaluation effort, the section is materially aided by the Intelligence Branch of ONI and the District Intelligence Offices. Internally, it is organized on the basis of major topical interests.

Illustrative of the inter-relations within the Security Branch, the S. E. C. section receives much routine information regarding individuals and situations from other sections; on the other hand, in connection with security matters, it may provide the investigations section with an evaluation of information developed in the course of an investigation of a suspect or prospective employee. In addition, it may be able to advise the Security Control Section that one of the members of an official foreign mission requesting clearance for an official inspection is a known or suspected enemy agent. In time of war, the closest relationships are maintained with the Censorship section in order to identify foreign agents, their contacts, and their means of finance and communications.

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Closely associated with S. E. C. is the Investigations Section which provides the Navy with personnel trained in specialized counterintelligence techniques. The counterintelligence function of this section is to develop information regarding alleged or suspected espionage, sabotage, and subversive activities on the part of naval personnel, uniformed or civilian. In addition, it is the officially designated investigative service for the Naval Establishment and makes investigations not immediately related to counterintelligence. These are conducted when specifically requested by competent naval authority. Such investigations include matters involving naval contractors, war frauds, and personnel misconduct or disciplinary cases.

Contractors' investigations may be required before the material bureaus of the Navy Department enter into contractual relationships with private concerns. When, in the interest of the security of classified naval equipment or information, the Chief of a Bureau deems it necessary to have facts about the general corporate structure of a contractor, its financial responsibility, ability to produce, integrity of management, and especially any possible foreign affiliations, ONI is requested to obtain the essential information. Based on the facts developed, the responsible bureau authority can then make his decision regarding the placing of the contract. These facts also contribute to decisions concerning appropriate security controls that should apply to classified work in progress. Requests for war fraud investigations arise out of the belief of a commanding officer that naval personnel, military or civilian, are involved in defrauding the government in connection with a naval contract or by the unauthorized use or disposition of naval supplies or equipment. If evidence of fraud is developed, the case is referred to the Department of Justice and, at the same time, the commanding officer is advised of the facts so that he can take such action as he desires to protect the Navy from further harm. Since the Investigations Section provides the designated investigative service for the Navy, its trained agents are called upon to determine the facts pertaining to misconduct and breaches of discipline so that commanding officers can fix responsibility and better determine appropriate punishment.

Because of the diversity of its activities, this section is closely associated with most phases of intelligence operations as well as with a large number of the naval commands and other offices and bureaus of the Navy Department. While some of its work is not immediately of a counterintelligence nature, the greater part has some bearing on security measures, and sometimes seemingly unrelated cases are productive of information of direct counterintelligence value.

It must be kept in mind that this section, in gathering data on an investigation, is serving only as a fact-finding agency. Completed investigations are referred to the requesting authority for such administrative action as he, in his best judgment, believes to be necessary on the basis of the facts presented. In order to protect sources of information from compromise or disclosure, all investigative reports are classified *Confidential* or higher; recipients, therefore, must safeguard them carefully and not disclose sources therein. In no case is the subject of a report to be advised of its existence or permitted to see it.

The Security Branch has Navy-wide responsibility for originating or approving the promulgation of all policies relating to the safeguarding of classified naval information, as well as administering such policies. The Assistant to the Branch Head (Security Policy) originates, approves, and reviews policy and prepares for promulgation by the Chief of Naval Operations specific directives on such subjects as classification and security measures, the disclosure of naval information, the taking of photographs, the release of information on new ship construction or conversion, and visits to naval activities and installations. While directives on physical security are prepared by the Base Maintenance Division, Office of the Chief of Naval Operations, the branch functions in an advisory and consultative capacity.

The Security Control Section administers and executes various security policies and programs. This involves a wide range of activity, a diversity of responsibilities, and the exercise of the most discriminating judgment. In its work this section is assisted by qualified representatives from the various technical bureaus and offices, the State Department, and Army and Air Force Intelligence. Included in its responsibilities is the re-

lease of classified information to individuals and organizations for private use, to industry manufacturing items of naval interest for foreign governments, and to official representatives of foreign governments. Generally speaking, classified information is not released for private use except when so doing serves the interests of the Navy. For example, it may be necessary, on occasion, to provide merchant vessels or civilian aircraft with classified Hydrographic Office information. Releases to foreign governments are usually governed by high level policy decisions and by special circumstances within the purview of the Navy's technical bureaus and the Intelligence Branch of ONI. Visits of foreigners to naval activities, commercial plants and private institutions engaged in classified work for the Navy require clearance and the issue of proper credentials. Security liaison with the Office of Public Information of the Navy Department entails review of articles, reports, and pictures to determine whether or not the subject matter may be released in conformance with established policy. Another task is that of the prevention and correction of security violations by naval personnel which sometimes occur in the preparations, handling, and marking of correspondence. Much more serious is the loss or compromise of classified matter. In such cases, as required by Navy Regulations, a local investigation of the circumstances is made and a report forwarded to CNO. Each report is reviewed to determine whether the investigation has been adequate, and it is then transmitted to the interested offices of the Navy Department for information and, when disciplinary action is indicated, to the Bureau of Naval Personnel.

Since classified information is originated and handled by all naval activities, an important function of the Security Branch is the integration of procedures, the coordination of assignment of classifications, and timely declassification. Advice to naval commands regarding security considerations and coordination with other agencies is a continuing responsibility.

When activated in time of war, the Censorship Section is responsible for preparing basic regulations for naval censors, maintaining liaison with all other censorship organizations, and acting as a clearing house for such administrative matters

as violations, proposed changes in regulations, and general inquiries. Since naval censorship is a function of command, officers are designated to serve as censors for every naval vessel, base, and activity, and special instructions in addition to basic regulations may be prepared with the approval of ONI. As appropriate, special reports are submitted by individual censors through the chain of command to the Censorship section. Such reports may be summaries of information of a subversive nature, indications of leaks, or evidence of an unusual interest in classified naval information. The questionable correspondence may be forwarded with the report. A basic problem of censorship is the exercise of good judgment and common sense in the treatment of private correspondence, the forwarding of photographs, the transfer of personal funds, and the clearance through customs of officers (not official couriers) carrying official Navy documents.

Associated with this section in wartime is the Telecommunications Unit which provides trained officers for cable and radio censorship. The Navy, with its responsibility for the safe overseas movement of merchant ships and strategic materials, is vitally interested in safeguarding movement information transmitted over commercial or private circuits. Personnel selected for this work usually possess a background of experience in trade, finance, industry, and communications. The defensive function of this activity is to prevent the transmittal of information of military, economic, or political value to an enemy, such as production data, new devices, general shipping information, and movements of materials, supplies, or personnel. Offensively, this activity can detect enemy covert operations by intercepting agent reports, transmittal of funds, propaganda, and requests for special information; even more, it can assist in thwarting espionage, sabotage, and subversive operations. In this area, the coordination of naval security interests with those of other agencies is most important. During World War II this unit and its personnel were transferred to the Cable and Radio Division of National Censorship.

Also active in wartime, the Commerce and Travel Section functions to prevent the unauthorized transmission of classified information through merchant shipping, crews, travelers, over-

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seas commercial aircraft, and maritime personnel; it assists in the control of persons attempting to enter or leave United States controlled areas whose activities might constitute a danger to the security of the Naval Establishment. Worldwide in scope, the responsibilities of this section are centered around the boarding of merchant ships, the preparing of advisory information for individual travel authorizations and inspection of travelers, the making of special studies, and cooperative liaison with other agencies engaged in the control of travel and commerce. While this section operates primarily to establish and maintain security barriers against the illegal movement of classified information and personnel engaged in espionage, sabotage, or subversive activities, it also collects a large volume of information for a variety of intelligence purposes. During peacetime, the functions of this section are performed by established civil federal agencies; even in wartime, these civil agencies retain primary responsibility and the Security Branch of ONI acts in a supplementary and advisory capacity in areas of particular concern to the Navy. When active, the Commerce and Travel Control Section initiates policies and supervises the field work performed by the District Intelligence Offices and related to its mission.

The primary counterintelligence purpose for boarding ships and aircraft entering or leaving United States controlled ports is to ascertain that no classified information is hidden in the ship, cargo, or on the persons of travelers and crew members and to insure that proper security measures are maintained in the handling of shipping information and classified cargo assigned to overseas areas. Leakage of important information can occur from the careless use of bills of lading, marine insurance policies, and cargo manifests; likewise, merchant seamen and waterfront workers can make valuable observations of merchant ships and cargoes. A second purpose is to obtain by means of interview any pertinent information possessed by merchant marine officers, crew members, travelers, and Armed Guard personnel. Survivors of enemy attacks on shipping are sources of information not only of immediate operational value but also of salient details regarding the attack: the circumstances, enemy units involved,

names of other survivors or known dead or missing, and the status of classified publications aboard.

Travel authorization is basically a responsibility of the State Department, while travel inspection rests with agencies of the Treasury and Justice Departments: United States Customs and the Immigration and Naturalization Service. The ONI Commerce and Travel Section works with these agencies in a cooperative and advisory capacity in matters relating to naval security. The checking of passenger and crew lists in advance of the arrival or departure of a merchant ship or commercial plane is a valuable means for enforcing security control measures, and promptness in processing and dissemination of resulting information is imperative. The preparation of special studies of trends and situations by this section serves to guide and stimulate the activities of the field units. The closest liaison, effective at all levels of operation, must be maintained with other military agencies, the Passport and Visa divisions of the State Department, the Bureau of Customs and Internal Revenue of the Treasury Department, the FBI and the Immigration and Naturalization Service of the Justice Department, the Office of International Trade of the Commerce Department, the Civil Aeronautics Administration, the Maritime Commission, and other federal and state agencies, not to mention a variety of private agencies and companies. Particularly close relationships exist with the Coast Guard which has primary responsibilities for port security and the clearance of merchant seamen.

As already indicated in this review of the Navy's counterintelligence organization, the sections of the Security Branch both support and are supported by field activities, notably the District Intelligence Offices. While the responsibilities of these offices are localized within their districts, they are no less important and usually are interrelated not only from district to district and to the Security Branch, but also to the field activities of other governmental agencies. It is imperative, therefore, that all current information regarding counterintelligence matters be available in the DIO's and that these offices be manned by personnel trained in the various security techniques and procedures. The requirements and capabilities of

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these offices will naturally vary according to their geographical area of responsibility; in any event, they must be prepared to support effectively all pertinent countermeasures if the Naval Establishment and the nation are to be protected successfully against espionage, sabotage, and subversive activities.

In chapter 3 the counterintelligence organizations of the Army and the Air Force were identified; it is sufficient to indicate here that their functions and responsibilities within their respective services are similar to those of the Security Branch of ONI. The counterintelligence activities and responsibilities of all the military services are carefully defined by the Delimitation Agreement and integrated with those of the FBI which has primary responsibility for the internal security of the United States.

COUNTERINTELLIGENCE IN A THEATER OF MILITARY OPERATIONS

While basic counterintelligence problems and objectives in a theater of operations are not essentially different from those already discussed, the urgency of operating conditions gives special emphasis to the time element and the nature of military combat both requires and permits the use of special countermeasures and techniques in addition to those already described. The extent and character of counterintelligence activities are conditioned by the particular theater of operations and such factors as population density, composition and cultural characteristics of the people, their attitude toward friendly and enemy forces, their susceptibility to enemy penetration and propaganda, and the stability of local governments.

In a theater of operations the information targets of enemy intelligence are concentrated within the field of armed forces intelligence knowledge described in chapter 5, with emphasis on capabilities and vulnerabilities. Recognizing these probable targets, the intelligence officer has a number of counterintelligence responsibilities, such as the planning of effective protective countermeasures and the neutralization of hostile intelligence operations. In coordination with other staff sections, he will plan measures and procedures for deceiving the enemy. Counter propaganda may be his

sphere of responsibility, as well as censorship and the initiation of investigations as required. In general, counterintelligence operations in the theater are grouped into five categories: military security; civil security; port, frontier, and travel security; censorship; and special operations.

Special operations may include problems of camouflage and concealment of installations, either to mask their true identity or to conceal them from observation completely. The intelligence officer may also supply valuable knowledge in the planning of deceptive measures such as feints, secondary landings, demonstrations, and false concentrations. The success of deception depends upon a maximum of realism in execution and complete security of information.

In combat areas, counterintelligence personnel are responsible for or assist in locating evacuated enemy headquarters, billeting areas, supply depots and similar installations and searching them for documents and other material of possible interest. Other sources of potential value are offices formerly occupied by enemy intelligence services, enemy police organizations, local semimilitary organizations, civil government centers, signal communications and broadcasting centers, and known collaboration groups. Mail at enemy post-offices should be impounded pending the arrival of designated censors. Important personnel targets are known or suspected enemy agents, collaborators, and sympathizers, whose identity and location may be facilitated by contact with local officials and other persons known to be friendly to our forces. On the other hand, installations evacuated by our own forces must be inspected to ensure that no material of intelligence value to the enemy has been left behind.

Prior to the establishment of controls by Civil Affairs or Military Government units in areas recovered from an enemy, counterintelligence personnel cooperate with military commanders and police units in preparing security regulations, promulgating instructions, and restoring law and order. Frequent checks must be made to ascertain the effectiveness of measures taken, and informant networks must be established. Since security controls over a civil population become the responsibility of Civil Affairs-Military Government units, the closest relationships must be maintained with

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them for they normally serve as the channel for dealings with civilians in a military zone. Counterintelligence personnel often continue to assist in such matters as locating and confiscating hidden arms and the conduct of security investigations. As a general principle in the wake of battle, the security of military interests has priority over the welfare and convenience of the civilian population in a theater of operations.

Counterintelligence Estimates and Plans

From the foregoing it is apparent that advance planning is essential, in order that the intelligence officer may carry out his counterintelligence responsibilities successfully. An early requirement is an estimate of enemy intelligence capabilities, based upon available knowledge of the enemy's overt and covert intelligence agencies, including organization, training, equipment, doctrine, techniques, and disposition. Such an estimate should include a critical analysis of our own counterintelligence deficiencies. This careful study will indicate additional knowledge required, improvements to effect, and the measures which will be most advantageous in countering the enemy's intelligence effort. This estimative process for counterintelligence is only a subsidiary phase of the total process involved in preparing the Intelligence Estimate discussed in chapter 12.

However, the Intelligence Estimate form itself can be utilized as a general guide for the intelligence officer as he analyzes his counterintelligence problems and considers appropriate countermeasures. The Department of the Army Field Manual 30-5, entitled *Combat Intelligence*, recommends the revision of the estimate form to include the following topics as appropriate:

- a. Collection of Information.
 1. Overt methods.
 - (a) Reconnaissance, ground and air, including photo.
 - (b) Communication intelligence.
 - (c) Prisoners of war, deserters, and refugees.
 - (d) Captured documents, including maps, orders, and letters.
 - (e) Interception of radio and television broadcasts.
 - (f) Interrogation of captured secret agents.
 2. Covert methods. Espionage, all types.

- b. Sabotage.
 1. Military.
 2. Political.
 3. Economic and industrial.
- c. Guerrilla Warfare.
 1. Semimilitary operations.
 2. Minor armed uprisings.
- d. Underground.
 1. Political and refugee.
 2. Escape and Evasion.
 3. Criminal.
- e. Assassination and Abduction.
 1. Military and political leaders.
 2. Personnel performing critical duties.
- f. Unfriendly Nations. Miscellaneous activities.
- g. Analysis of our own and allied counterintelligence deficiencies.

The particular form used is not important. What is essential is that appropriate measures to counter each enemy capability be devised and assigned to various units of the command.

The intelligence officer should maintain for his own use a composite record in order to make certain that he has considered all possible enemy intelligence operations, planned for the necessary countermeasures, and recommended execution by the appropriate agencies. This record may also contain notations amplifying the planned countermeasures for further dissemination to the action agencies; it may indicate additional information to be collected and reported according to a time schedule. The results of this study and planning are incorporated into the intelligence annex to an operation order, described in chapter 12.

SUMMARY AND CONCLUSIONS

It is hoped that this study has served to give greater understanding of intelligence work and the milieu in which it operates in war and peace. This text is not intended to be complete in its coverage of the subject matter but rather only introductory. Of necessity intelligence impinges on many aspects of human life. It deals with the realities of existence and the interrelationships of groups of people who have formed themselves into powerful states. Inevitably, any study of intelligence becomes historically dated, and while this text has endeavored to project ideas beyond the present, the viewpoint is that of early 1953.

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Intelligence has been described as organization, as knowledge, and as a producing activity. Only by the coordinated effort of many contributing agencies and personnel at all echelons can intelligence be produced to meet the needs of a nation and its armed forces. By tracing the historical development of intelligence, valuable lessons have been pointed out as guides for the present and the future. In considering functions of intelligence in the formulation of the strategy and tactics of world states, a proper perspective for intelligence personnel has been suggested.

As an area of human knowledge, intelligence specifically deals with foreign nations and geographic areas of potential operations. It helps to answer questions of both a strategic and operational nature. Its component parts have been described as geographic, transportation and telecommunications, sociological, political, economic, armed forces, scientific and technical, and biographical. Because of their current interest to the United States, World Communism and the U. S. S. R. have been given more detailed consideration.

The processes whereby information is converted into intelligence have been shown as an unending cycle within which is collection, processing, and dissemination. Use by planners and operational commanders sparks new requests for collection, while throughout the cycle, guidance controls and channels the various phases of activity. The intelligence cycle is practically applied by the intelligence section of a naval staff in its support of the naval commander as he makes his decisions and supervises his planned action. It has continuing practical application in the support given by intelligence to all types of naval operations including air, surface forces, submarines, and joint and combined operations including amphibious. It is at work in the intelligence support of special activities such as atomic warfare, economic warfare, psychological warfare, and guerrilla and partisan operations.

All of these aspects of intelligence—organization, knowledge, and activity—find special and concentrated application in counterintelligence which is directed against hostile intelligence organizations and their activities threatening the welfare and security of the nation.

While Naval Intelligence is the primary consideration of this text, it has been necessary to deal with the general field of intelligence, because only by so doing can the purposes, responsibilities, relationships, and contributions of Naval Intelligence have real meaning.

THE FUTURE OF INTELLIGENCE

Those assigned to intelligence duties can sometimes become overenthusiastic as they consider the potentialities of their activities. On the other hand, those unacquainted with the capabilities of intelligence, or familiar only with its limitations, can find few values comparable to the hardware of war. There is, of course, a middle ground where realistic appraisal and appreciation meet. Knowledge and understanding will lead to the recognition that intelligence can make very real contributions, but that it can predict the future only within the limits of the social sciences which aid in its production. Insofar as facts can be collected, intelligence can at least produce reasonably accurate estimates of capabilities and, at certain levels, give sufficient indications of intentions to alert action agencies to possible dangers and threats.

Intelligence is not an end in itself, but only a means to an end which can be constantly used to effective advantage by both civilian and military leaders as they formulate and implement the grand strategy of the nation. As a staff function intelligence is an integral part of command and never an independent activity.

Intelligence activities, carefully planned and wisely guided, have been demonstrated historically to be a profitable investment that will more than repay the cost in manpower and resources. However, its benefits cannot be obtained by hasty improvisation. A working organization is much more than the creation of units and lines of control on a paper chart, and its product can have full meaning only when developed over many years. The exploitation of sources of information is gradual and painstaking, while improvements in the techniques of processing come only from long experience. Dissemination is also a matter of training and experience in making certain that the

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right knowledge reaches the right people at the right time.

The experiences of World War II and the post-war years have awakened and sharpened general interest in and knowledge of intelligence needs. The development of a United States Intelligence organization with an emphasis on coordination and guidance starting at the highest national level gives promise that the nation will be better guarded and better guided than it has in the past. With full and continued public support, United States Intelligence must continue to merit the trust of those it serves.

COMMENTS ON STUDY

The readers of this text will be primarily naval military personnel in many types of assignments. Some, having nonintelligence duties, will be interested only in a general understanding of intelligence; it is hoped that such has been gained. Others, assigned to intelligence duties, will recognize that this book is not a detailed working manual. Many of its sections can be considerably expanded. Individual tasks must be learned either on the job or at such special training schools as may be organized for that purpose. However, for intelligence personnel, this book will have served its purpose if it has given a fuller insight

into the totality of intelligence activity and provided direction to further study.

The ingenuity and interest of the individual will be required to expand his own sources from books, periodicals, newspapers, naval operational experience, foreign travel, and acquaintance with people everywhere. Equally as important as the study of books is learning more about people and why they react as they do. A characteristic of the good intelligence officer must be a genuine interest in people and places, an awareness of the world about him, and the ability to view it with objective detachment.

The cursory inspection of this text for the sole purpose of locating facts to copy into written assignments will have limited and incidental value. The hasty formulation of answers to essay-type questions will be equally unrewarding. Clear thinking and real understanding are goals the reader should set for himself. He should particularly derive from essay questions the experience of analyzing and interpreting topical material, together with that of the preparation of intelligence reports which have the qualities of clarity, conciseness, and completeness. For the naval officer with much more than an idle curiosity and passing interest in intelligence this text will provide a good beginning to his own development as an intelligence officer of real value to the Navy.

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